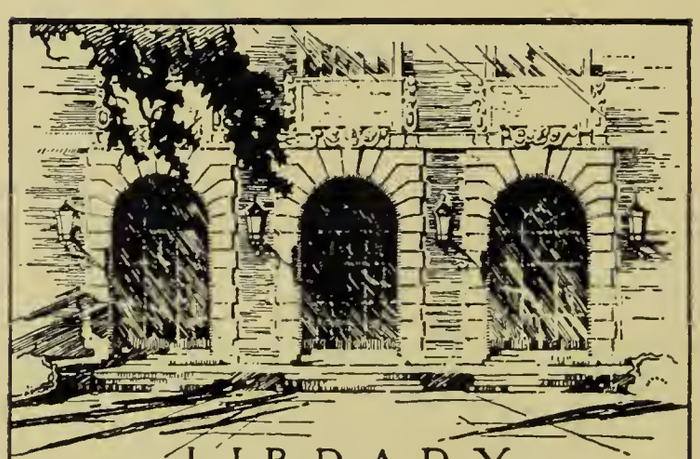

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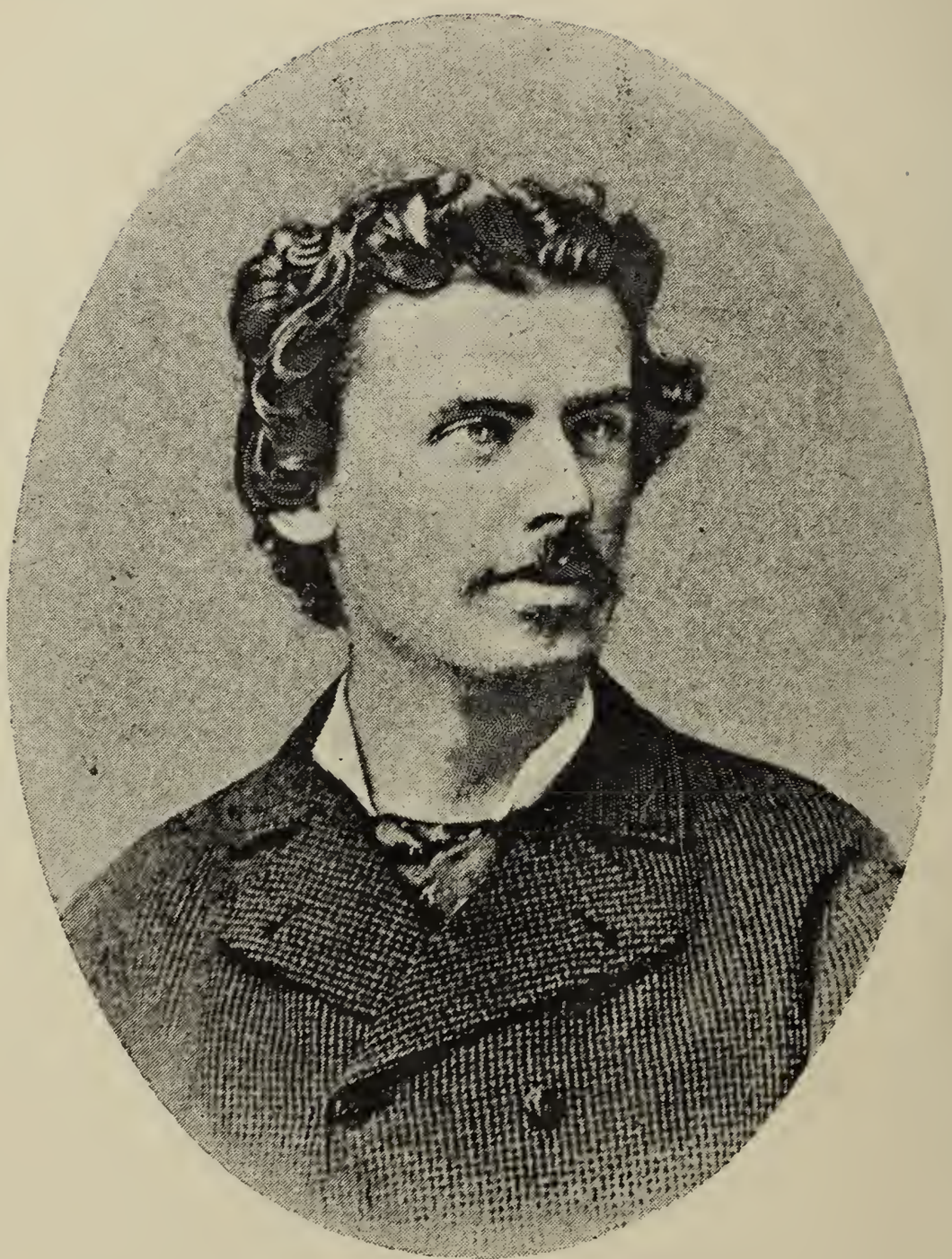

J. M. GUYAU.

EDUCATION AND HEREDITY.

A STUDY IN SOCIOLOGY.

BY J. M. GUYAU.

TRANSLATED FROM THE SECOND EDITION BY
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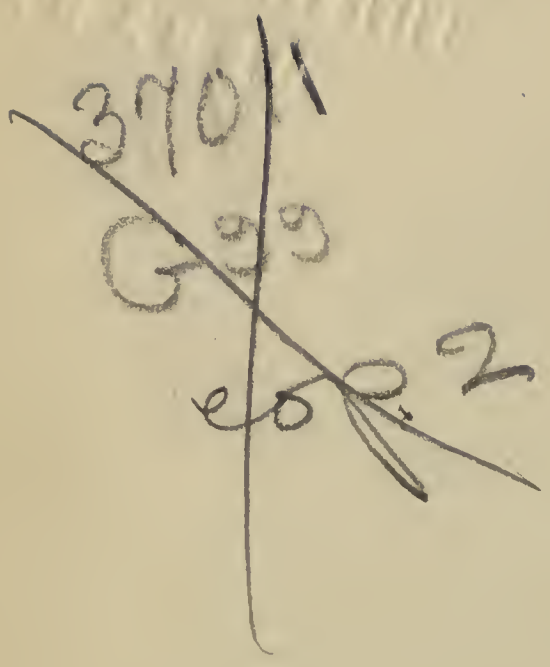
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TRANSLATOR'S PREFACE.

In this posthumous work I have taken the liberty of inserting many marks of quotation, which no doubt would have been added upon revision if the untimely death of the lamented author had not intervened. I must express my obligations to all who have assisted me while engaged upon this translation. I am glad of this opportunity of expressing my indebtedness to M. Alfred Fouillée for his extreme courtesy to a complete stranger, and for the trouble he has taken to explain such difficulties as I have from time to time referred to him for solution. In particular, I have to acknowledge the advice and unfailing sympathy received from my friend Mr. G. F. Stout, whose ungrudging assistance has been invaluable.

W. J. G.

Cardiff, *June* 1891.

INTRODUCTION.

JEAN-MARIE GUYAU, philosopher and poet, was born on the 28th of October 1854, and died at the age of thirty-three. His early training was mainly due to his mother, who is known in France as the author of various works on education, and to his step-father, M. Fouillée, one of the most remarkable of living French philosophers. At the age of nineteen, M. Guyau wrote a volume on the Utilitarian moralists from Epicurus to Bentham and his school. Portions of this work, which was "crowned" by the *Académie des sciences morales et politiques*, were afterwards expanded into two treatises. The first of these was on the Philosophy of Epicurus; it received a full and appreciative notice in the English *Journal of Philology;* the second treatise was an exposition and criticism of contemporary English Ethics. At the age of twenty his health broke down, and he was practically compelled to reside for the rest of his life on the shores of the Mediterranean. During the few years that remained to him he showed himself marvellously prolific, producing a series of works on the leading problems of philosophy, marked by striking originality and power. In addition, he also published a volume of poems, entitled *Vers d'un philosophe*, exhibiting a unique vein of genius. They represent in the clearest and simplest language the emotional aspect of philosophy; in the fullest sense they justify

their title, they are the verses of a *philosopher* who was in his inmost nature a genuine *poet*. From the bibliography appended to this Introduction the reader will see that M. Guyau gavé to the world three sociological studies on Art, Religion, and Education respectively. The last of these is here presented in an English dress. Perhaps a few preparatory words on its distinctive aim and value may be acceptable to the general reader.

The main value of M. Guyau's work on Education and Heredity is to be found in the point of view from which it is written. The ultimate good of society is ever present to his mind as the one standard by which to estimate and regulate all educational aims and methods. At the same time he holds that the good of the individual is only to be found in social activity. The development of the life of each of us is measured by the range and intensity of our human interests. Thus, though Guyau is essentially practical, he is not utilitarian in the bad sense of the word. He does not set up as the ultimate aim of education the acquirement of useful knowledge, or the training of the intellect, or the passing of examinations. These ends are to be pursued only in so far as they conduce to the "conservation of social tissue," and to the progress of the race.

In accordance with his general principle, Guyau gives the first place in order of value, and in order of treatment, to moral education. Like Plato, he draws a distinct line of demarcation between the morality of impulse and the morality of insight. The morality of impulse takes the form of inward imperatives which impose themselves on the mind of the agent without his knowing whence they come, or why they

possess authority. These inward imperatives are in part instincts transmitted by heredity. But according to Guyau it is also possible to create them by education. In order to elucidate this point he lays stress on the analogy between the operation of natural instinct and that of suggestions made to hypnotised subjects, which are afterwards spontaneously carried into action. In such cases the person who performs the suggested action commonly feels himself under a kind of necessity or obligation to act as he does, but he cannot trace back this necessity or obligation to its true source. The artificially created impulse governs him as if it were an innate instinct. Now, just as hypnotic patients are suggestible because their mental organisation is disordered, so young children are suggestible because their mental organisation is as yet imperfect. What the experimenter is able to do in the one case, the educator ought to be able to do in the other.

But the morality which is based on a blind sense of obligation is only a preparation for the morality which is based on insight. Guyau's views on the subject of direct moral instruction are coloured by his peculiar ethical theories. He seems to start with the assumption, which is perhaps not altogether justifiable, that every healthy child has a natural disposition to be active for the sake of being active. So soon as he is made aware of his powers and capabilities he will straightway endeavour to realise these powers and capabilities. For the same reason he will prefer the higher modes of self-realisation to the lower, so soon as he becomes alive to the distinction between them. Thus a child in good physical health and with moral instincts need only be shown

how he can live the most complete life. When once he feels that he *can*, he will at the same time feel that he *ought*. Ideas tend by their very nature to act themselves out. The more pervasive and persistent the ideas the more potent and enduring is this tendency.

Now the representation of an ideal self may be made the most pervasive and persistent of ideas, and may thus become the dominant principle of conduct. To effect this is the aim of ethical education. It is of course essential that the child should be brought to see and feel his true relation to the society of which he forms a part. He must be led to understand that his own self-realisation is possible only if and so far as he widens and deepens his social interests and sympathies.

Physical education is, in Guyau's opinion, second in importance only to moral education. For on it depends the general health and vigour of the race —the general store of energy necessary to moral and intellectual activity. To train the intellect at the expense of bodily health is to kill the goose that lays the golden eggs. This becomes apparent when we consider the question from the point of view of the race. An individual may be supposed to gain an equivalent in the way of worldly success and so forth for the physical exhaustion produced by overpressure. But the general result to the race can only be decay.

Guyau's consistently sociological point of view makes his treatment of intellectual education very interesting and suggestive. He is led by it to emphasise the claims of æsthetic and literary culture. For him the word useful means useful to the community and to the race as a whole. Whatever then

makes men more human by giving them a wider and fuller sympathy with their fellow-men is useful *par excellence.* Now Guyau holds that it is the function of art and literature to bind society together. They supply common sources of enjoyment disconnected from the private aims and interests of the individual. They give definite form and vivid colouring to ideals in an objective embodiment which is common property, and in this way they tend to excite a common impulse towards the realisation of ideal ends. Lastly, in so far as they reflect human life and emotion, they tend to widen the mental horizon of the individual by giving him enlarged sympathy and insight. With these ideas of the nature and scope of art it is not surprising that Guyau should regard æsthetic education as more important than scientific. Botany and chemistry are good in their way; but poetry is indispensable.

The reader may perhaps be somewhat perplexed by the title of the book. He may be led to expect a discussion of the relative parts played by "nature and nurture" in forming the character of the individual. Now the only passage in which this subject is directly discussed is contained in the last section of Chapter II. The book as a whole seems to be concerned merely with Education apart from Heredity. Nevertheless, the title, *Education and Heredity*, is quite appropriate. It indicates the general standpoint of the author. Guyau never for a moment loses sight of the fact that every child is a possible parent, and that on the education of the child depends the future of the race. The physical, intellectual, and moral health of each generation must be so cared for as to ensure the physical, intellectual, and moral health of posterity.

G. F. S.

WORKS BY THE SAME AUTHOR.

La Morale d'Épicure et ses rapports avec les doctrines contemporaines.
La morale anglaise contemporaine.
Les Problèmes de l'esthétique contemporaine.
Esquisse d'une morale sans obligation ni sanction.
L'Irréligion de l'avenir, étude de sociologie.
Vers d'un philosophe.
L'Art au point de vue sociologique.
La Genèse de l'idée de temps.
Le manuel d'Epictète, traduction en Français.
Ciceron: De Finibus, édition classique.
Pascal: Entretien avec M. de Sacy, édition classique.
La Première année de lecture courante, livre de morale pour les écoles primaires.
L'année preparatoire.
L'année enfantine.

PREFACE.

It is in paternity alone that man first "sounds the depths of his heart"—in complete, conscious paternity, that is to say, in the education of his child. Ah! the patter of the little feet! the light and gentle pattering of the feet of the generations, that come as doubtful and uncertain as the future. And perhaps that future will be determined by the way in which we bring up the new generations.

Flaubert says that life ought to be an incessant education, that "from speaking to dying" everything has to be learned. Left to chance, this long education is every moment deviating. Even parents, in most cases, have not the slightest idea of the aim of education, especially when the children are still very young. What is the moral idea set before most children in a family? Not to be too noisy, not to put the fingers in the nose or mouth, not to use the hands at table, not to step into puddles when it rains, etc.[1] A reasonable being! In the eyes of many parents the reasonable child is a marionette, which is not to stir unless the strings are pulled; he is supposed to have hands which are meant to touch nothing, eyes which are never to sparkle with desire for what he sees, little feet which must never trot noisily on the floor, and a silent tongue.

[1] From a higher point of view, is the ideal of most men more elevated of its kind?

Many parents bring up their children, not for the children's sake, but for their own. I have known parents who did not wish their daughter to marry, because it would involve separation from her; others who did not want their son to take up this or that profession (that of a veterinary surgeon, for instance), because it was displeasing to *them*, etc. The same rules dominated their whole course of conduct towards their children. That is egoistic education. There is another kind of education which has as its object, not the *pleasure* of the parents, but the *pleasure* of the child as estimated by the parents. Thus a peasant, whose whole life has been spent in the open air, will consider it his duty to spare his son the labour of tilling the soil; he will bring him up to make him a government clerk, a poor official stifled in his office, who, cooped up in a town, will sooner or later die of consumption. True education is disinterested: it brings up the child for its own sake; it also and especially brings it up for its country and for the human race as a whole. In the various works I have published I have had a single end in view: the linking together of ethics, æsthetics, and religion, with the idea of *life*—life in its most intensive, extensive, and therefore most fruitful form; it is this idea therefore which will supply us in this volume with the object of education, the fundamental formula of pedagogy. Pedagogy might be defined as the art of adapting new generations to those conditions of life which are the most intensive and fruitful for the individual and the species. It has been asked if the object of education is individual or social; it is simultaneously individual and social: it is, to speak accurately, the search for means to bring the most intensive

individual existence into harmony with the most extensive social life. Besides, in my opinion, there is a profound harmony underlying the antinomies between individual existence and collective existence; whatever is really conformable to the *summum bonum* of individual life (moral and physical) is *ipso facto* useful to the whole race. Education ought, therefore, to have a triple end in view:—1st. The harmonious development in the human individual of *all* the capacities proper to the human race and useful to it, according to their relative importance. 2nd. The more particular development in the individual of those capacities which seem peculiar to him, *in so far as they cannot disturb the general equilibrium of the organism.* 3rd. To arrest and check those tendencies and instincts which may disturb that equilibrium—in other words, to aid heredity in proportion as it tends to create permanent superiority within the race, and to resist its influence when it tends to accumulate causes pernicious to the race itself. Thus education becomes the pursuit of the means of bringing up the largest number of individuals in perfect health, endowed with physical or moral faculties as well developed as possible, and thereby capable of contributing to the progress of the human race.

It follows that the whole system of education should be orientated with reference to the maintenance and progress of the race. In time past the creeds of a race acted by means of education, and preserved either the elect of a people or the nation as a whole. In this direction, therefore, education must act to-day. In my opinion education has been far too much looked upon as the art of bringing up the individual—apart from the family and the race.

From the individual we try to get the best yield; but it is as if a farmer were to endeavour for a few years to get the largest possible crops from a field without restoring to the land what he has taken from it: the field would eventually be exhausted. This is the case with exhausted races; but with this difference, that land lasts for ever, and in the long run regains its original fertility by rest and lying fallow, while the exhausted race may grow weaker and disappear for ever. Recent studies in heredity (Jacoby, De Candolle, Ribot), statistics of the professions, etc., have shown in a very striking manner that certain environments, certain professions or social conditions, are fatal to the race in general. People talk of the "devouring existence" of our great towns, without realising that they are not using a mere figure of speech, but are speaking the sober truth. Towns are the whirlpools of the human race, said Jean Jacques. As much may be said, not only of great towns, but of most places where there is a fashionable world, where there are *salons*, theatres, and political assemblies; all excess of nervous excitement in the individual will, by the law of organic equilibrium, introduce into the race either mental weakness or diseases of the nervous system, or some form of physiological derangement which will issue in sterility. According to the statisticians, there are "devouring" provinces and towns, districts peopled only at the expense of the neighbourhood which is thus more or less exhausted; similarly, there are "devouring" professions; and they are often the most useful to the progress of the community, and at the same time the most tempting to the individual. In fact, some have gone so far as to assert that every intellectual superiority in the

struggle for existence is a sentence of death for the race, that progress is literally made by the sacrifice of the very individuals or races who have worked the hardest in the direction of progress, that the best condition for the permanence of the race is life as little intellectual as possible, and that all education which over-excites a child's faculties, which tries to make the child a rare and exceptional being, is *ipso facto* endeavouring to destroy both the individual and the race.[1]

I think this assertion is partly true for education as at present organised, but I shall show that education, when better understood and more far-sighted in its aims, might remedy this exhaustion of the race, just as in agriculture exhaustion of the soil is remedied by rotation of crops.

It is only in modern times that *science* has been formed; a crowd of subjects of knowledge have sprung up, which are not as yet adapted to the human mind. This adaptation can only be produced by a rational division and classification of the different subjects of study; and the mind is exposed to suffering and overpressure because this division is not yet effected. It follows that the science of education must be harmonised with new conditions. Education must be *organised*—that is to say, we must establish the *subordination* of subjects of study and their *hierarchy* in the social unity.[2] As Spencer justly remarks, the more perfect and therefore the more complex an organism is, the more difficulties beset its harmonious development.

[1] *Vide* Galton, *Natural Inheritance*, Appendix F, p. 241. (Tr.)

[2] *Vide* Dr. J. Ward, "Educational Values," *Journal of Education*, November 1890. (Tr.)

The education of each new-comer in the case of the lower races of animals is not of long duration; and whatever is not actually taught it by others will be taught it by life, and that without great danger; its instincts are simple, therefore but few experiences are necessary for its guidance. But the higher we rise in the scale of beings, the longer is the evolution; the necessity of a real education then begins to make itself felt; the adults must help, support, and succour the young for a longer period, as, for instance, in the case of the higher mammiferous animals, the mother must carry the young and suckle it. So even in animals we find the germ of a kind of primitive pedagogy: education is a prolongation of this suckling, and its necessity is derived from the laws of evolution.

Here, however, a serious objection is presented, to which Spencer's own ideas have given rise. Must it be maintained, as has been done, that education is useless, or even powerless, because human evolution is necessary, and that evolution always depends on heredity? In the last century the importance of education was so far exaggerated that a man like Helvetius naïvely asked if all the difference between men does not spring from nothing but the difference of instruction they have received, and from their varied environment; if talent and virtue alike cannot be taught. We are now thrown upon distinctly opposite assertions by recent studies in heredity. Many philosophers and men of science now believe that education is radically powerless when it has to modify to any great extent the racial temperament and character of the individual; according to them a criminal as well as the poet *nascitur non fit;* the child's

whole moral destiny is contained in it while yet unborn, and in later life this destiny develops itself relentlessly. Obviously, then, there is no possible remedy for this common disease called *neurasthenia*, to which all criminals, poets, visionaries, the insane, hysterical women—in fact, all whose mental equilibrium is disturbed—are subject ; races simultaneously descend the scale of life and morality, and there is no ascent. The disequilibrated are for ever lost to humanity ; if they do propagate their kind for a longer or shorter period, it is all the worse for them. The Jukes family,[1] starting from a drunkard, produced in seventy-five years, 200 thieves and assassins, 248 invalids, and 90 prostitutes. By the ancients, whole families were proscribed as impure ; it must be confessed antiquity was right. We are told in the Bible that the sins of the fathers were visited upon the children to the third and fourth generations : modern science pronounces curses of the same kind, and seems to justify the Jews by the remark, that every moral characteristic, good or bad, does in fact tend to persist for about five generations, and then to be effaced altogether if abnormal. Woe, then, to the weak ! they must be eliminated, and we must mercilessly apply to them the words of Jesus to the Canaanitish woman—Jesus, pitiless and angered—" It is not meet to take the children's bread and to cast it to the dogs."[2]

In fact, between the powers attributed by some thinkers to education, and by others to heredity, is an

[1] *The Criminal*, Havelock Ellis (Walter Scott), p. 100. (Tr.)

[2] *Vide* Féré, *Sensation et mouvement ;* Dr. Jacoby, *La Selection ;* Dr. Déjerine, *L 'Hérédité dans les maladies du système nerveux ;* and the Italian criminalists—Lombroso, Ferri, Garofalo.

antinomy dominating the whole of moral and even political science; for if the effects of heredity are without a remedy, political science is paralysed. The problem has therefore a twofold aspect, and needs serious examination. I shall endeavour to exhibit the exact *rôle* belonging to the two terms before us, namely, hereditary or ancestral habit, and individual habit—the one incarnate in the organism, and the other acquired. We shall examine if the laws of *suggestion*, which have been recently ascertained by our psycho-physiologists, and of which the effects are still imperfectly known, do not constitute a new element, and if we cannot by their aid modify the data of the problem. Modern discoveries in suggestion seem to me of capital importance in education, because they give us the power of ascertaining *de facto* the possibility of always creating in a mind, at every stage of its evolution, an artificial instinct capable of producing an equilibrium of long or short persistence in pre-existing tendencies. If this introduction of new sentiments is possible by entirely physiological means, it should be equally possible by moral and psychological means. Recent studies on the nervous system will be adapted to correct scientific prejudices by means of a more complete science. Suggestion, which creates artificial instincts, capable of keeping in equilibrium the hereditary instincts, or even of stifling them, constitutes a new power, comparable to heredity itself; now, in my opinion, education is nothing but a totality of co-ordinated and reasoned-out suggestions; and we may readily foresee the efficiency it may acquire from the psychological and the physiological points of view.

J. M. G.

EDUCATION AND HEREDITY.

THE RÔLE OF HEREDITY AND SUGGESTION IN MORAL EDUCATION.

CHAPTER I.

SUGGESTION AND EDUCATION AS INFLUENCES MODIFYING THE MORAL INSTINCT.

I. *The Effects of Nervous Suggestion.*—Suggestion (*a*) of sensations and sentiments, (*b*) of ideas, (*c*) of volitions and actions—The possibility of creating by suggestion new instincts, and even instincts of a moral character—Suggested obligations—Artificial duties—The possibility of "moralising" and demoralising the subject—Suggestion as a means of moral reformation.

II. *Psychological, Moral, and Social Suggestion.*—Suggestion by example, by command, by authority, by assertions, by the use of words, by gestures, etc.—Suggested beliefs—Suggestion is the introduction into our being of a practical belief which realises itself spontaneously.

III. *Suggestion as a Means of Moral Education, and as an Influence Modifying Heredity.*—The true moral authority of the educator—Punishments—On inspiring self-confidence—Suggestions to be produced, and suggestions to be avoided.

I. *Nervous Suggestion and its Effects.*

The well-known results of nervous suggestion affect the sensibility, the intellect, and the will; sensations, sentiments, ideas, and volitions, may be suggested. "A man," says Shakespeare,

> "... can hold a fire in his hand
> By thinking on the frosty Caucasus;
> Or cloy the hungry edge of appetite
> By bare imagination of a feast;
> Or wallow naked in December snow
> By thinking on fantastic summer's heat." [1]

Suggestion realises Shakespeare's words. If a hypnotised subject is persuaded that he is in danger of perishing in the snow, he shivers with cold; if he is told that the room is excessively warm, he immediately perspires with the heat.

During the hypnotic sleep, or during catalepsy, M. Féré has suggested to patients the idea that on a dark table there was a portrait in profile; when they awoke they distinctly saw the portrait in the same place; and when a prism was placed before one eye, they were hugely surprised to see two profiles.[2] The lateral compression of the eyeball of the hypnotised subject is enough to displace the optical axis and produce diplopia. This, as Dr. Hack Tuke points out,[3] is due to the possibility of a central sensation, objective in its origin, supplanting a sensation derived from a peripheral impression. The suggested sensation is impressed upon that region of the cerebral cortex which is ordinarily impressed by the real

[1] *Richard II.*, Act I., Sc. iii., 294-299.

[2] Moll, *Hypnotism*, pp. 280, 281 (Walter Scott). (Tr.)

[3] *The Influence of the Mind upon the Body* (1872), p 31.—Binet and Féré, *Animal Magnetism* (Kegan Paul), pp. 230, 231. (Tr.)

sensation—a region which has become the seat of a kind of local hypnotism. An attendant at the Crystal Palace, whose duty it is to manipulate a galvanic battery, has often noticed that ladies who had hold of the handles experienced peculiar sensations, and that they quite believed that they were galvanised before the machine had begun to act.[1]

"In 1862," says Mr. Woodhouse Braine, "I was called in to administer chloroform to a young, very nervous, and highly hysterical girl, from whom two tumours had to be removed. I sent out for the chloroform, and in the meantime, to accustom her to the mask, I placed it on the patient's face; immediately she began to breathe irregularly. After half a minute she said: 'Oh! I feel I am going off!' The chloroform had not yet arrived. A gentle pinch produced no effect; I pinched her severely, and to my great surprise she felt nothing. This seemed a favourable opportunity, and I asked the surgeon to begin the operation. At its conclusion I asked the patient if she had felt anything. 'No!' she said, 'I do not know what has happened.' When she left the hospital, she was still a firm believer in the power of the anæsthetic which had been given her."

It is well known that stigmata are a phenomenon of auto-suggestion. The reader is familiar with the case of Louise Lateau, the Belgian stigmatic. The periodicity of the stigmata is readily explained by the fact that an association was established between certain days of the week and the ideas determining the physical result.[2]

[1] Tuke, *op. cit.*, p. 34. (Tr.)

[2] *Vide* Carpenter's *Mental Physiology*, p. 689, and Moll's *Hypnotism*, p. 117. (Tr.)

Ideas of action, and volitions, may be suggested as in the case of sensations. Take a hypnotised subject: we can suggest to him this or that idea of action, as, for instance, a visit to some one at a certain day and hour, a mistake in the spelling of his own signature to a letter, the opening of a book and reading the first twenty words on page 100, repeating a prayer, taking a handkerchief from the pocket of some one in the room and throwing it into the fire, etc. This idea of action, instilled during the hypnotic sleep, haunts the patient's mind when he awakes, becomes a fixed idea, and in most cases pursues him until he has in some way or other worked it out. Moreover, when he is working out this idea, he fancies he is acting quite spontaneously, and obeying a whim of his own; he attributes to himself another's will implanted in him, and he often finds almost plausible reasons to justify the irrational acts he has been made to perform.[1]

In addition to the ideas and beliefs that may be thus suggested, in addition to volitions, sensations, and hallucinations, we may instil *sentiments*,—admiration or contempt, sympathy or antipathy,—and passions and emotions, such as permanent fear. And all these suggestions, so certain sometimes in their action, may be given instantaneously; within fifteen seconds we may by a sudden gesture stop a subject on his way between two doors, throw him into a state of cataleptic immobility, produce somnambulism, suggest actions to him, and then awaken him.[2] The subject will probably be unaware that he has been asleep, he will have only felt a slight and

[1] Moll, *Hypnotism*, pp. 154, 155.—Binet and Féré, *Animal Magnetism*, pp. 290, 291. (Tr.)

[2] Moll, *Hypnotism*, pp. 259, 260. (Tr.)

transient tremor; but a new idea is from that moment implanted in him, an impulse which, if unimpeded, will very soon pass into action: fifteen seconds have sufficed to put the hand on the lever of the human machine. If this be so, can we not go further and create genuine instincts, and those of a moral kind? While habit or instinct is at first organic, to be afterwards reflected in the form of an idea in the domain of consciousness, suggestion shows us an idea penetrating from without into the brain of an individual, striking root, so to speak, and eventually transforming itself into a habit. The order is inverted, the practical result is the same. I believe I was the first to point out the close analogy between suggestion and instinct, as well as the possible application of normal and natural suggestion to education, and of artificial suggestion to therapeutics, as a corrective of abnormal instincts, or as a stimulant of normal instincts which are too weak. (Every suggestion is in fact a *nascent instinct*, created by the hypnotiser, just as the modern chemist produces organic substances by synthesis.) And as every instinct is the germ of a sense of necessity, and sometimes even of obligation, it follows that every suggestion is an impulse which is beginning to impose itself on the mind—an elementary purpose which is in the act of incorporating itself with the personality. This purpose, in most cases, believes itself free and autonomous, and before long would dominate the being with all the characters of the most energetic and conscious volition, if it were not resisted by other pre-established and active tendencies.

When a permanent artificial instinct is created in this way, it is probable that a mystical and

quasi-religious sentiment would soon attach itself to that instinct. Suggestion under certain conditions is physical restraint; under more complex conditions we may almost enforce moral obligation. On the whole, every moral or natural instinct, as Cuvier remarks, is derived from a kind of somnambulism, because it gives us a command, the reason of which is unknown to ourselves: we hear the "voice of conscience," and localise this voice within us, although its origin is far more remote, and although it is a distant echo transmitted from generation to generation. Our instinctive conscience is a kind of hereditary suggestion.

M. Delbœuf suggested to his servant M. the idea of embracing a guest, a young man, M. A. She went up to him, hesitated, retreated, blushed vividly, and hid her face in her hands. Next day she confided to Madame Delbœuf that she had felt an extraordinary longing to embrace M. A.; and further, this longing had not yet disappeared; on the third day it was still felt. Eight days after, M. Delbœuf repeated the order already given, and this time, in the evening, his command is obeyed. M. Delbœuf, who has taught his subjects to remember their acts under the influence of suggestion, asked the girl what she had felt the night before when she went up to embrace M. A. "I was thinking of nothing in particular," she said; "but when I opened the door, the idea suddenly came into my head to embrace M. A.; I felt as if *I was absolutely obliged to do it*, and I embraced him."[1] "At 5.15 P.M. on the 5th April," proceeds M. Delbœuf, "I suggest to M. that at the stroke of 5.30 she will go up and console a wooden statue of a weeping monk on

[1] *Revue Philosophique*, Feb. 1887, p. 123. The italics are M. Delbœuf's.

the mantelpiece. I awake her. The clock strikes; M. rises from her seat, and proceeds to comfort the monk with many signs of commiseration, and then sits down again. . . . Recollection of what has happened is perfect.—'How do you make up your mind to do so unreasonable a thing as that?' '*I feel as if I were obliged to do it.*'"

The effects of suggestion have been ably analysed by M. Beaunis. There is nothing more curious from the psychological point of view than to follow on the face of the subject the unfolding and development of the idea suggested to him. It may be, for instance, in the middle of a trivial conversation having no relevance to the suggestion. Suddenly the hypnotiser, who is on the alert, watching the subject without appearing to do so, observes at a given moment a kind of pause in the flow of ideas, an inward shock which betrays itself by a scarcely perceptible sign, a look, a gesture, or a working of the face; then the conversation is resumed, but the idea returns to the charge —still faint and indefinite; a touch of astonishment appears in the look, we feel something unexpected is from moment to moment crossing the mind like a ray of light. Soon the idea gradually grows in vigour; takes more and more complete possession of the intellect; the struggle has begun; eyes, gestures—everything bespeaks, everything betrays the internal conflict; we follow the fluctuations of the thought; the subject still listens to the conversation, but vaguely and mechanically; he is elsewhere: "his whole being is a prey to the fixed idea which is becoming more and more deeply rooted in his brain. When the moment has come, all hesitation disappears and the face assumes a striking character of

resolution." This inward struggle, terminated by action, is not without analogy to the other struggles in which the moral instincts engage. And, as we know, the conflict is accompanied by consciousness and reason, for the hypnotised subjects always find some pretext or other for their conduct.[1] The *mechanism*, as such, is therefore comparable in the two cases, and the subjects of M. Beaunis seem to obey the same natural laws as any hero in Corneille when he sacrifices himself to duty. There is always a great difference in complexity and value between these mechanically analogous phenomena; in fact, the formula of action we call duty is the moral and self-conscious resultant of very complex co-ordinated forces, the resultant of higher natural tendencies harmonised by that formula; on the other hand, command, as conveyed by suggestion, is the sudden and fugitive effect of a single and disturbing tendency, artificially introduced into the mind. It follows that he who feels the inner pressure of suggestion must necessarily be conscious that he is in an abnormal state, that he is under a disturbing influence, that he is, in fact, dominated by an isolated force, and not borne forward by the totality of the best, most normal, and most deeply rooted tendencies of his nature.

Nevertheless, it is probable that by treating a human being as if he were a plant removed from its normal environment, and by systematising suggestions, we might eventually create—as I have shown in my *Esquisse d'une Morale*[2]—real *artificial duties*,

[1] *Vide* Richet, *La Mémoire et la Personnalité dans le Somnambulisme.* (*Revue Philosophique*, March 1882.)—Binet and Féré, *Animal Magnetism*, pp. 290, 291.—Moll, *Hypnotism*, p. 152. (Tr.)

[2] Pp. 45, 46.—*Vide* Binet and Féré, *Animal Magnetism*, pp. 134-142. (Tr.)

each complete in itself. This would be synthesis proving the accuracy of our analysis. We might also, by an inverse experiment, annul more or less provisionally this or that natural instinct. A somnambulist may be made to lose his memory,[1]—for example, his memory for names,—and we may even, according to M. Richet, make him lose his *whole* memory (*Revue Philosophique*, 8th October 1880). He adds:—"This experiment ought only to be made with every possible precaution; I have seen such terror and disorder supervene in the intellect—the disturbance lasting about a quarter of an hour—that I would not voluntarily renew this dangerous experiment." If, as most psychologists do, we identify memory with habit and instinct, we must suppose it would also be possible to annihilate provisionally, or at least to weaken, in a somnambulist, any instinct, even though it be among the most fundamental and most binding on the self-conscious being,—for example, those of maternity, modesty, etc. If this suppression of the instinct left no traces upon waking, we would then be able to test the resistance of the different instincts,—for example, of the moral instincts,—and to ascertain which are the deepest and most tenacious, the altruistic or egoistic tendencies. We might, in that nereditary and social memory called morality, distinguish between the more solid parts, and the weaker that have been more recently superinduced.

Of course the experimenter, if an honourable man, will never use the power of suggestion for the purpose of demoralising; he will use it for "moralising." On this point, the general hints I had formerly given

[1] Moll, *Hypnotism*, pp. 123-139.—Binet and Féré, pp. 321, 322. (Tr.)

have been already successfully followed up by a considerable number of experimenters. It has now been shown that we can counteract a mania or depraved habit by an artificial habit, created by means of suggestion during the hypnotic sleep. Suggestion will therefore have consequences of which we cannot yet accurately determine the scope from this double point of view of mental therapeutics, and even of education in the case of young neuropaths.[1] In the first place, the therapeutic results of suggestion are already numerous. Dr. Voisin asserts that he has cured by suggestion both delirious melancholia and dipsomania. In all cases morphinomania may be cured by this means, and the cure may even be suddenly made, without provoking the attacks of furious madness ordinarily ensuing on the prohibition of morphia. Alcoholism and the craving for tobacco have been cured in the same way by MM. Voisin and Liégeois.

Suggestion may also in certain cases become a means of correction. After the civil disturbances in Belgium, M. was terribly afraid of going out at nightfall: even a bell at that time would make him tremble. M. Delbœuf hypnotises and reassures him, and orders him to be more courageous in future; his alarm disappeared as if by magic, and "*his conduct* was modified in consequence."[2] It is possible therefore to influence the conduct. Jeanne Sch—, aged 22, a thief and prostitute, lazy and slovenly, has been transformed by M. Voisin of the Salpétrière—thanks to hypnotic suggestion—into a submissive, obedient,

[1] Moll, *Hypnotism*, pp. 331, 332.—Binet and Féré, *Animal Magnetism*, pp. 359, 360. (Tr.)

[2] *Revue Philosophique*, August 1886. M. Delbœuf.

honest, clean, and hard-working woman. For many years she had not voluntarily opened a book; now, she learns by heart pages of a moral work; all her affections are awakened, and finally she has been admitted into a charitable institution as a servant, where "her conduct is irreproachable." It is true this is simply the substitution of a pleasant for an unpleasant neurosis. Numerous cases of moral cure of the same kind have been effected at the Salpétrière. Even in his private practice M. Voisin claims to have transformed, by hypnotic suggestion, a woman whose character was unbearable, and to have made her gentle and affectionate to her husband, and henceforth free from exhibitions of temper. A metamorphosis indeed! In the same way, Dr. Liébault, of Nancy, succeeded, by means of a single suggestion, in making a persistently idle boy diligent for a period of six weeks. This is a beginning. It may, however, be asked whether it is not better to leave a boy in idleness than to make him a neuropath. M. Delbœuf has recently proposed the use of suggestion for young criminals in reformatories and houses of correction. Already several doctors have applied for permission to make experiments. While making every allowance for professional enthusiasm, the truth remains that suggestion has a considerable influence, and, as we shall see, the psychologist may draw important deductions from this fact.

II. *Psychological Suggestion, Moral and Social.*

Physiological[1] and neuropathic suggestion is nothing but the exaggeration of facts occurring in the normal state. Experiment on the nervous system is a kind of analysis which isolates the facts, and thus throws them into relief. Hence we may and ought to admit a psychological, moral, and social suggestion, which is produced even in the healthiest subjects, without acquiring that artificial exaggeration to which nervous derangements are due. This normal suggestion, if well organised and regulated, may evidently either favour or repress the effects of heredity. Let us study it in its origin and different forms.

I have already pointed out that we may now consider it as proved, that if mental suggestion exists to an exceptional degree in certain subjects peculiarly qualified for its reception, it ought, in virtue of the analogy of constitution in the human race, to exist also in some degree, however slight, in everybody: why then is it not more easily detected? Because:—1st, it is very weak in most people, only producing an effect which is imperceptible at any given moment or in any detached instance, though it may well have a cumulative influence which is very considerable; 2nd, in normal subjects mental suggestions must intersect more or less, coming as they do from very different individuals coincidently. In our normal state we are not under the influence of one *determinate*

[1] By *physiological suggestion* is implied mental suggestion effected by *physiological means—e.g.*, hypnotism. By purely *psychological suggestion* is implied mental suggestion by means of a *psychological* character—*e.g.*, commands, advice, the contagion of example, sympathy, imitation, etc.—M. Fouillée.

magnetiser, the only person in the world who moulds us to his will. But it does not follow that we are not accessible to an infinite number of small suggestions, sometimes inhibiting each other, sometimes accumulating so as to produce a very appreciable resultant effect; these are suggestions that have come, not from an isolated individual, but from the whole of society, from the whole of our environment: they are, strictly speaking, *social* suggestions.

Nothing happens, then, in artificial sleep which cannot be produced in a more or less rudimentary degree in most people in a waking state; we are all susceptible to suggestions, and even social life is only, so to speak, a balanced interchange of reciprocal suggestions. But the possibility of personal resistance to suggestion varies considerably with the individual. There are some who are almost incapable of resistance, whose personality in a measure goes for nothing in the totality of motives determining action. They are stricken with a kind of moral paralysis. That remarkable observer, Dostoieffsky, mentions among other characteristics of the criminal class, the impossibility of repressing a desire: "reason has no power over these men, except in so far as their volition is in abeyance. When they desire something, obstacles are non-existent to them. . . . They are born with an idea which unconsciously sways them to and fro all their lives; in this fashion they wander aimlessly till they have met with some object violently arousing desire within them, and then they lose their heads. When Pétrof wants something, that something he must have. An individual like Pétrof will assassinate a man for twenty-five copecks, simply for the price of half a pint; on another occasion he will

look with contempt on hundreds of thousands of roubles."[1]

Example ought of itself to exert a force, due to the unity and continuity of the social consciousness. The mere sight of rhythmic motion induces the neuropath to imitate it—a phenomenon of psycho-motor suggestion of which MM. Richet and Féré have given instances.[2] Hence arise spasmodic epidemics. If we ask the neuropath to look attentively at the motion of flexion given to our hand, in a few minutes he declares he has a sensation as if the same movement is taking place in his own hand, although it is perfectly motionless. But this immobility does not continue, for his hand very soon begins to carry out irresistibly the rhythmic movements of flexion. All perception is more or less reducible to an imitation, to the creation within us of a state corresponding to that which we see in others; all perception is a kind of incipient suggestion, which in certain individuals, not being neutralised by other suggestions, completes itself in action. The suggestive element inherent in all perception is, as we have seen, stronger in proportion as the perception is that of an action or of a state bordering on action.[3] In fact, all suggestion becomes irresistible when perception, instead of being produced in the midst of the complex states of consciousness which limit it, occupies the whole consciousness, and at a given moment constitutes the whole inner being. This state has been called monoïdeism, and is found in

[1] Quoted by M. Garofalo, *Revue Philosophique*, March 1887, p. 236.—*Vide* Ellis, *The Criminal* (Walter Scott), pp. 17, 18, 147, 213. (Tr.)

[2] Binet and Féré, *Animal Magnetism*, pp. 281 *et seq.* (Tr.)

[3] Here especially is manifested what has been termed the "idea-force."

somnambulists, and in all whose mental equilibrium is made more or less unstable by a kind of abstraction which suppresses in the mind one aspect of reality.

The neuropath who tends to mechanically reproduce a muscular movement executed in his presence, will equally tend to reproduce a state of sensibility or volition which he sees in another individual, and which has been revealed to him either directly by facial expression, or indirectly by speech and the tone of the voice.

Thus suggestion is the transformation by which a relatively passive organism tends to bring itself into unison with a relatively active organism; the latter dominates the former, and eventually controls its external movements, its volitions, and its inward beliefs. Intercourse with respected relatives, a master, or any superior whatever, must produce suggestions which extend through a child's lifetime. Education has the magic and "charms" spoken of by Callicles in the Gorgias,[1] of which it makes use to tame the young lions when need arises. There are in man "thoughts by imitation," which are transmitted from individual to individual, and generation to generation, with the same strength as real instincts. I know a child of thirteen, who had read in *Martin Paz*, one of Jules Verne's novels, the description of a captivating heroine who had a mincing gait, and from

[1] The following is Professor Jowett's translation of the passage referred to:—"These are the men who act according to nature; yes, by Heaven, and according to the laws of nature: not perhaps according to that artificial law, which we forge and impose upon our fellows, of whom we take the best and strongest from their youth upwards, and tame them like young lions—charming them with the sound of the voice, and saying to them that with equality they must be content, and that the equal is the honourable and the just." (Tr.)

that time forward the child endeavoured to take very short steps. This habit is now so inveterate that she will in all probability never be able to rid herself of it. If we take into account the continuous interconnection of every movement of the body, we shall understand what an important modification this artistic impression has introduced into this child's mode of existence—little steps, gestures, and voice, and perhaps a childish expression of face.

We know the rapidity with which crimes are propagated by suggestion in the very form under which the first was accomplished: women cut to pieces, strange suicides, the nail in the sentry-box from which seven soldiers in succession hanged themselves, etc.[1] Hence arises the danger of the press. The editor of the *Morning Herald* has declared that he will never insert in his paper reports of murders, suicides, or forms of madness, because they may become contagious; and he has kept his word. The *authority* possessed by certain persons is also explained by the contagion of a state of consciousness, and this state is nothing but the state of belief and faith, the intensity of assurance. Obedience is the effect of successful suggestion, and the power of suggestion is reducible to the power of assertion. Accordingly, the temperaments most capable of acquiring authority over men are those which assert most strongly, or which at least appear to assert most strongly, by gesture and tone. Those in whom we believe most, and who are most obeyed, are those who have or seem to have the strongest belief.

The power of affirmation being reducible to an energy of the will, the words *that is* may be reduced

[1] *Vide* Ellis, *The Criminal*, p. 177.—Tuke, *op. cit.*, p. 66. (Tr.)

to:—*I wish this to be so, I act as if this were so, I adapt myself entirely to this supposed phenomenon.* Hence the following law: every strong will tends to create a will in the same direction in other individuals; every adaptation of the consciousness to a supposed phenomenon—for example, a future event or distant ideal—tends to propagate itself in other consciousnesses, and the social conditions favourable to the appearance of the phenomenon tend of themselves to enter into combination, owing solely to the fact that their combination has already been presented to an individual consciousness.

What I think and see with sufficient energy, I make everybody else think and see; and if all see it, it exists, at least in so far as consciousness and collective belief may be regarded as equivalent to a realisation.

The second law is, that the contagious influence of a belief, and consequently of a volition, is in direct ratio to its force of inward tension, and, so to speak, of its first inward realisation. (The more we ourselves believe and act, the more do we act on others and make them believe.) Energetic volition is immediately transformed into a kind of command; authority is the centre from which action is radiated. Charlatans and orators are generally familiar with the contagious power of affirmation; the voice of assurance and accent of faith in which they assert what they wish to convince their audience of must be heard; tone of voice is their first and sometimes the most solid of their arguments.

In hypnotisable subjects[1]—we must not forget that they are about 30 per cent. of normal individuals—

[1] Moll, *Hypnotism*, pp. 38-41. (Tr.)

a simple assertion in the waking state, made authoritatively by a person in whom they have confidence, is enough to produce illusions or true hallucinations. On the simple assertion of M. Bernheim, one of his subjects, completely awake, gives information to a commissary of police of a scuffle between workmen which he thinks he has seen in a chapel; moreover, he declares himself ready to give sworn evidence before the magistrate. Thus we see how suggested hallucinations become the basis of a line of conduct, and may give rise to the most serious social consequences. There is a natural power and authority in the *tone* of voice, a power which is well exhibited by observation of hypnotisable subjects, whom children resemble in so many ways. M. Delbœuf, addressing a hypnotisable but unhypnotised subject, can, he tells us, either make her see his beard, which is really white, as if it were black, or assent in part: "Not quite black, sir; there are many white hairs in it," or can persuade her of nothing at all. There is an infinite number of gradations in the tone of the voice; and hypnotisable subjects, being peculiarly sensitive, interpret them more rapidly than others; but their actions are only the translation and exaggeration of impressions felt by every one.

Suggestion by imitation and nervous sympathy increases in power when gesture and even the action itself are added to the tone of voice. MM. Binet and Féré remark that if we say to a subject, "Grip that with all your might," a dynamometric contraction of much less intensity is produced than when we grip the object ourselves, and say, "Do as I do."[1]

The commands of God are real suggestions made

[1] *Animal Magnetism*, pp. 120-134, 295. (Tr.)

in the ears of a whole race—suggestions the more powerful because they were based on the authority of a superhuman being, and because the sound of the words seemed to be of heavenly origin. Every strong impulse in a conscious being becomes a kind of inward voice saying: "Thou shalt! thou shalt not! advance! retreat!" It therefore assumes the form of a precise suggestion, which owes its authority to its very precision, and if energetic enough becomes a command: "Thou shalt do this! thou shalt not do that!"

Words are, in man, the natural and necessary product of intellectual evolution, when consciousness is characterised by a certain distinctness; they are a phase in the development of the idea and the emotion, from which they are inseparable. Accordingly every word (especially in the concrete and limited tongues of primitive races) immediately and vigorously awakens the idea or the corresponding emotion. On the other hand, since it is a psychological law that every image vividly engrossing the consciousness tends to issue in action, a word is an action in its inception. All the words of a language, especially of a primitive race, are possibilities competing with each other for realisation—suggestions neutralising each other. When a person, armed in our opinion with authority of any kind, utters a word to us, or formulates a precept, he completes and brings into overt action a latent suggestion already a part of ourselves—gives a new force to a pre-existing impulse. The internal impulse of power seeking to manifest itself, and the external impulse of speech, are two forces of the same nature, which can only be conjoined in moral suggestion, or command, whether hypnotic or

not. Further, a word is effective only inasmuch as it is the symbol of that act of the will or reaction of the sensibility which it expresses and commands. In itself it is nothing. A hypnotised subject to whom it has been suggested that he should steal a spoon, puts out his hand to a watch he sees on the table; it was the moral idea of the theft, rather than the object of the theft, that was borne in upon his mind. Another, to whom Dr. Bernheim had suggested that upon waking he would smell eau de cologne very strongly, thought that he smelled a very strong odour, but that it was burnt vinegar. Words mean nothing to the hypnotised subject except as definitions of the moral or sensory character of actions or reactions; it is this character that is of importance to him, and the external object of these actions or reactions is of but slight importance. Belief, as I have said, plays a leading part in all suggestion; suggestions affecting sensibility, and particularly visual imagery, enable us to measure the force of the belief by the intensity of the image produced. The mere fact that we cannot believe a certain thing makes our representation of it fainter. Doubt relative to a suggested image prevents the production of complete hallucination. M. Binet said one day to a sleeping subject: "Look at that dog sitting on the carpet." The subject immediately saw the dog; only as it seemed to him very strange that the dog should have so suddenly entered the laboratory, the image failed to become objectified. "You want to 'hallucinate' me." "Don't you see the dog then?" "Yes, I see it in my imagination, but I know perfectly well it is not on the carpet." Another patient being allowed to discuss a suggestion of Dr. Binet's, the latter imposed silence on him, and the subject immediately

answered: "I know why you do not wish me to discuss the suggestion, because it would weaken it." A doubtful turn of expression—"If you do such and such a thing"—either produces a very faint suggestion or none at all.

The *if* is introduced into the mind of the subject, and creates a meeting point of divergent paths, instead of the single direction in which the will was to be impelled. The power possessed by the subject of weakening the suggested image by doubt explains why auto-suggestion succeeds when simple suggestion fails. We always believe more strongly what we assert to ourselves than what others assert to us. "If the subject himself," says M. Binet, "by dint of reasoning suggests to himself an idea, he will adopt it without resistance, it will be more intense, and therefore more efficacious." Again, let me quote a remarkable experiment by M. Binet. We know that in catalepsy an expressive attitude given to the limbs is immediately reflected on the face: this is muscular suggestion. M. Binet asked himself if a moral suggestion given by way of preliminary could not modify and even suspend muscular suggestion in catalepsy. G. being in the somnambulist state, he warns her that she is to be thrown into the cataleptic state, and that in this state her face will remain impassive whatever movements are communicated to her hands. The patient instead of submitting to the injunction, discusses it, and observes that she cannot obey because she loses consciousness during catalepsy. In spite of these very well reasoned misgivings of the subject, M. Binet proceeds with the experiment, but the muscular suggestions are carried out as usual; the failure is complete. M. Binet then puts her again into the somnambulist

state, and she spontaneously inquires if the suggestion has succeeded. M. Binet answers in a perfectly natural tone that it has been quite successful, and the patient being astonished but convinced, he immediately throws her into catalepsy again, and repeats the experiment. This time it is completely successful; the preliminary mental suggestion entirely suspends the muscular suggestions; when her hands are put to her mouth in the position of sending a kiss, the line of the mouth remains motionless; on closing the fists before her eyes, no sign of anger appears. In order to gradually awaken muscular suggestion, the hand had to be left for five minutes in the same position (of throwing a kiss); at the end of that time, M. Binet succeeded in bringing a smile to the mouth by giving the hand a waving motion.[1]

Just as a positive suggestion—*i.e.*, the idea that one will do or see a thing—is tantamount to a contagious assertion, in the same way a negative suggestion—the idea that we shall not see this or that person present, or that we shall not perform this or that habitual act—reduces to a contagious negation, which is an assertion of another kind. As M. Binet remarks, scepticism is suggested instead of faith. We can thus weaken and even entirely destroy real perceptions.[2] When we say to a subject: "You cannot move your arm," we paralyse the motor current that sets the arm in motion. Hence I think we can establish the following law:—Every manifestation of muscular or sensorial activity does not take effect unless accompanied by a certain belief in one's self, or by the expectation of a determinate result, on the occurrence of certain antecedent conditions. The

[1] Moll, pp. 171 *et seq.* [2] Moll, *vide* Index, "Paralyses."

consciousness of action is thus partly reduced to the belief that one is acting, and if this belief is destroyed, the consciousness itself becomes disorganised. All conscious life is based on a certain self-confidence, which may be identified with self-habit; and this self-habit, this vague belief in the conformity of what one has been, with what one is, and will be, may be very easily disturbed, just as reflex acts may be disturbed by a doubt arising from conscious reflection.

III. *Suggestion as a Means of Moral Education, and as an Influence modifying Heredity.*

The state of the child at the moment of its entrance into the world is more or less comparable to that of a hypnotised subject. There is the same absence of ideas or "aïdeism," the same domination of a single idea or passive "monoïdeism." Further, *all* children are not only hypnotisable, but readily hypnotisable. In fact, they are peculiarly open to suggestion and auto-suggestion.[1]

Everything the child perceives will therefore be a

[1] M. Motet made an interesting communication to the *Académie de Médecine*, 12th April 1887, on the false evidence given by children in courts of law. Drawing attention to the affecting character of the account given by a child of the details of a crime, the author has collected a number of facts which clearly characterise the mental state of a child-plaintiff, and which show the psychic mechanism of their false evidence. In many of these cases the gravest accusations have no other motive than the necessity for explaining some trivial prank. In one case, the child not knowing what answer to make to its mother, the latter, by her questions, suggests the whole story of an indecent assault, which the child retains and repeats before the magistrate. In another, a child plays truant from school and falls into the water, and under the influence of this moral shock, which awakens in him a series of dreams and phantasms of previous fear, he organises a

suggestion; this suggestion will give rise to a habit which may sometimes be prolonged through its lifetime, just as impressions of fright instilled in children by nurses are, as we know, perpetuated. Suggestion, as I have said before, is the introduction within us of a *practical belief* which is spontaneously realised; the moral art of suggestion may therefore be defined as *the art of modifying an individual by persuading him that he is or may be other than he is.* This art is one of the most important appliances in education. All education, indeed, should be directed to this end, to convince the child that he is *capable of good and incapable of evil*, in order to render him actually so; to persuade him that he has a strong will, in order to give him strength of will; to make him believe he is morally free and master of himself, in order that "the

mental drama, and accuses an individual of having thrown him into the water. In another case, hypnagogic hallucinations become the basis of an accusation of indecent assault. In fact, leading questions implying guilt, made in an energetic tone of voice, appear enough under other circumstances to determine in the child a process of unconscious assimilation, in virtue of which he proceeds to declare himself guilty of a crime he has not committed, or to testify to what he has never seen. In all these cases we recognise the influence of suggestion and auto-suggestion, as having an exaggerated effect upon the child's brain, which is still plastic and in process of organisation. Whereas in the adult it is the contradictory details and different versions which prove that there is wilful perjury, so that the magistrates wait in their examination for the moment when the witness will contradict himself, it is otherwise with the child; the automatic invariability of its deposition ought to be a reason for suspecting its veracity. "When a medical expert," concludes M. Motet, "after several visits, finds the same words and the same details, when he has only to *start the train of ideas* to hear unfolded in unchanging sequence the most important statements, we may be sure the child is not telling the truth, and that it is unconsciously substituting acquired data for the true account of events in which it may have taken part."—*Vide* also Moll, pp. 345 *et seq.* (Tr.)

idea of moral liberty" may tend to progressively realise itself. Moral slavery, "aboulia," as it is called, reduces either to a partial unconsciousness an irresolution which makes the agent abandon himself at every turn to opposed impulses without struggle or comparison, or to the belief that he will have no strength to resist, that he is powerless, or, in other words, that his consciousness has no power to act on the ideas and tendencies that cross it. To deny the repressive power of his own consciousness is to abandon himself with a light heart to the haphazard play of impulse.

Further, the hypnotiser who wishes to produce an act with certainty takes care to suggest, along with the idea of action, the idea that the subject cannot but do as he is told ; he creates simultaneously a tendency to act, and the idea that the tendency is irresistible ; he excites the brain with regard to one point, while he paralyses it with regard to every other ; he isolates an impulse from the total mental system which might otherwise resist it, and makes — so to speak — a void around it. Thus he creates an entirely artificial and morbid state similar to the states of aboulia observed in numerous patients. M. Bernheim, for instance, had suggested to S. the idea of a theft, without the idea that he could not resist the suggestion. On his awaking, S. sees a watch, puts out his hand to it, and then stops short. "No!" says he, "it would be thieving." Another day Dr. Bernheim sends him to sleep again, and says : "You will put this spoon in your pocket ; *you will be unable to do otherwise.*" When S. awakes he sees the spoon, still hesitates a moment (the persuasion of powerlessness not being quite strong enough), and

cries: "Well, so much the worse!" and puts the spoon in his pocket.

It is often enough to tell children and young people, or otherwise lead them to believe, that we assume this or that good quality in them, to induce them to exert themselves to justify the opinion. To assume in them depraved sentiments, to reproach them undeservedly, to treat them badly, is to produce the contrary result. It has been justly said that the art of managing the young consists before anything else in assuming them to be as good as they wish themselves to be. If an hypnotic subject is persuaded he is a pig, he straightway wallows and grunts like a pig. The same happens in the case of those who theoretically think themselves of no more worth than a pig; their practice must necessarily offer points of correspondence with their theory. This is an auto-suggestion.

The same principles find their application in the art of governing men. Numerous facts from prison-life show that to treat a half-criminal as a great criminal is to urge to crime. To raise a man in the esteem of the public and himself is to raise him in reality. A clasp of the hand offered by an enthusiastic young lawyer to a thief who had been ten times convicted was enough to produce a moral impression which is lasting to the present moment. A prisoner, seeing one of his comrades rushing forward to strike the governor of the prison, stops him by an almost instinctive movement; and this action will be enough to save him from himself, to rescue him from his antecedents and moral environment. Henceforth his conduct will be irreproachable.[1]

[1] Ellis, *The Criminal*, pp. 232-282. (Tr.)

Testimony of esteem is one of the most powerful forms of suggestion.[1]

On the other hand, to believe in the wickedness of any one is as a rule to make him more wicked than he is. In education, therefore, we must always obey the rule just laid down: presuppose the existence of goodness and goodwill. Every statement made aloud upon the mental state of a child immediately plays the *rôle* of a suggestion: "This child is naughty—he is idle—he will not do this or that." How many vices are thus developed, not by hereditary fatality, but by ill-advised education![2] For the same reason when a child has misconducted itself, we must not in blaming it interpret the action in its worst sense. The child is in general too unconscious to have had a completely perverse intention; to ascribe to it deliberation, fixed purpose, and manly resolution

[1] Are the numerous cases of second offences, ascertained to have taken place after the imprisonment of delinquents, due to the incurability of crime, or are they not rather due to the deplorable organisation of our prisons, where everything suggests and teaches crime? The variability of second offences with the country, and with prison organisation, would seem to prove the latter case; they are 70 per cent. in Belgium and 40 per cent. in France. The system of separate cells has brought them down to 10 per cent.; in fact, at Zwickau, by "the graduation of punishment and its adaptation to the individual," the proportion has been reduced to 2.68 per cent. We must draw the conclusion that, as far as we know at present, it is barely certain that as many as 20 per cent. of our criminals are predestined to crime by other causes than their environment, and the suggestions they receive from it. And if, even in this 20 per cent., we admit the overmastering influence of atavism, we must know how far this action has been unaided in their early years by the suggestions of their first education, which are the most powerful of all.

[2] Receipt for stopping crying: Pour cold water on the face. "Come, my dear, wash those red eyes of yours; oh, how much good that does you!" This is suggestion of a comforting idea, instead of a depressing idea.

in wrong doing, is to deceive ourselves and develop those habits in it; to assume the existence of vice is often to produce it. We must therefore say to the child: "You did not really wish to do that; but see how others would interpret your action if they did not know you."

When a man, followed by a vaguely threatening crowd, musters up courage to face it, and suddenly cries, "You want to hang me, do you?" there is every chance that they will immediately apply the formula he has found for them. This is the case with a multitude of more or less bad instincts, which are necessarily awakened in the child's heart at certain moments of its existence; we must not give the child the *formula of its instincts*, or by so doing we strengthen them and urge them to pass into action. Sometimes, indeed, we create them. Hence this one important rule I lay down for educators: It is as useful to make good tendencies self-conscious, as it is dangerous to make the bad tendencies self-conscious, when as yet they are not so.

A sentiment is a very complex thing—so complex that parents must not fancy they can raise it by a reproach. To assert, for instance, that a child is indifferent to its parents, is not the way to make it affectionate; on the contrary, it is much to be feared that assertion of indifference only produces it, or at any rate increases it, by persuading the child of its existence. A sentiment must be imputed in far more delicate terms than an act. We may reproach a child for having *done* or not done this or that; but in my opinion it should be a rule in education *to suggest rather than reproach in matters of sentiment.*

Suggestion may weaken or momentarily increase intelligence; we may suggest to a person that he is a fool, that he is incapable of understanding this or that, that he will be unable to do that or the other; thereby we develop a proportionate lack of intelligence and want of power. The educator, on the contrary, should follow this rule: Persuade the child that he will be able to *understand* and to *do* a thing. In Pascal's words:—"Man is so made that by dint of frequent asserting that he is a fool, we make him believe it; and by dint of telling himself this, he makes himself believe it. For man carries on with himself an *inward conversation*, which it is of importance to regulate carefully; *corrumpunt mores bonos colloquia prava*."

We ought to accept what a child says or does out of good-will. His confidence in all those around him ought to stifle his innate timidity. When we think of the sum total of courage which a child, who feels himself such a mere beginner, and so unskilful in everything, must summon up to express himself or take the slightest initiative in the presence of adults, we understand how very important it is not to let timidity get the upper hand, and eventually paralyse him. We must therefore look at the child with an encouraging eye, making him observe, merely in a quiet way, when the opportunity arises, that he would succeed better if he acted in such or such a manner. He must learn everything; we must show our appreciation of his least effort, while we tell him what effort has yet to be exerted.

Why is it a good thing to give *tasks* to children? To accustom them, in the first place, to *will*, and in the second place, to succeed—*i.e.*, to feel their

own power.[1] One sentiment, then, that should be developed in the child, is true self-confidence. We all have pride, but we have not all sufficient confidence in ourselves—or rather in our perseverance in effort. Every one says : " So much I am well able to do ;" but few venture to try, or if they do they quickly give it up, and pride ends in a kind of inward abasement and self-annihilation. " Have faith " is the cry of piety. For morality it is further necessary to have faith in oneself, in one's own power, and that independently of all external aid ; it is a good thing to expect an abundant spring to leap forth from the heart at the first summons, without the employment of the magic wand which Moses used in his day of doubt ; the least doubt may make us dry and sterile, and prevent the welling-up of the living will. We must have confidence in the power of our lord and master—ourselves. The dominant idea of religious morality is the powerlessness of the will without grace,—in other words, the opposition of will and power, the original sin seated in the heart of man. Original sin is a kind of suggestion instilled in this way from childhood, and producing a real hereditary sin. There is in us, said the Hindoo mystics, a *self* which is the enemy of *self*. This internal foe is personified by Christians in Satan, ever present in the best of us. Thus the obsession of sin became a true hallucination, and gave place to a

[1] Only, not to obtain an effect diametrically opposed to what we desire, the task must require a minimum of time, and be far from exceeding the child's powers. The task should only be increased in proportion to the strength of the pupil, and so as to always constitute a gymnastic exercise of the attention and the will, never an exhausting labour. Madame Périer tells us that Pascal's father made a rule never to give his boy a task beyond his powers.

doubting of the personality such as we see in certain patients.

Nowadays we no longer do feel, and we no longer ought to feel, the demon within us; we ought to proclaim that the so-called "possessed" are impotent or sick, and that healthy people are good; man, when ὑγιής, is the real ἅγιος. In religion and in morality alike, the idea of *salvation—i.e.*, healthgiving—is the essential idea; it is in no way essential to its existence that it should be considered as a simple corollary of the idea of sin. We can conceive of health without sin, nor is there a contradiction in this; after all it was upon the idea of health that Jesus insisted most, much more than on sin; indeed, the most imperfect and least human portions of the gospel are those referring to sin. The sentiment of sin, no doubt, includes an element worthy of respect—scrupulousness, the conscience embittered and tormented by the least deviation from its ideal; but this inward grief must not increase so as to fill the whole of life, and to give birth to what is really moral pessimism. If self-distrust be a good thing, it is also a good thing to believe in one's own powers. A too intense sense of sin may lead to a kind of moral paralysis. We spontaneously link ourselves to the object of our dread; we are attracted by the fearful object upon which we fix our minds; human nature is itself perverted by asserting its irremediable perversion. In this respect the lay morality of Confucius, of which the peculiar characteristic is the repeated assertion of the goodness of human nature in the normal man, is much superior to the religious ethics derived from Christianity or Brahminism. Although the doctrine may be disputed from the physiological point of view, it is useful for educative suggestions.

"I say that human nature is good," writes Meng-Tseu; ". . . there is no man who is not naturally good, just as there is no stream which does not naturally find its own level. . . . The heart is the same in all men. What, then, is the common property of all hearts? What is called natural reason, natural equity. . . . Natural equity pleases the heart, as a tasty morsel pleases the palate. . . . The human race, created by God, has received as its portion a faculty for action and a rule for action." Modern philosophy, while re-establishing the *rôle* of heredity, must return in a measure to the ancient wisdom of China, and must free man from deadly sin; it must show not only that moral obligation presupposes the faculty of action, but that it proceeds from it, that it is the normal exercise of it, that he who does with reflection and reason what he can, also does what he ought. "Have you noticed," says Meng-Tseu, naïvely enough, "that in years of plenty many good actions are done, and that in poor years many bad actions are done?" Meng-Tseu is right; all the causes of discord among mankind are always a more or less complex transubstantiation of a piece of primitive bread; man's real sin is hunger in all its forms. An organism completely nourished, not only in its framework and muscles, but in the finest ramifications of its nervous system, would be, but for morbid hereditary dispositions, a well-equilibrated organism. Every vice, which reduces to a disequilibration, thus reduces scientifically to the more or less incomplete nutrition of some deeply-seated organ.

Man is not fundamentally bad, for he is a naturally sociable being. *Homo homini lupus* is true, but even the wolves have some good in them, for they sometimes

assemble in bands and organise more or less provisional societies. Besides, they have the best of the animals—the dog—for cousin-german. If man has sometimes the instincts of the wolf, he has also those of the dog; he has also those of the sheep; and all this makes a mixture which is not exactly ideal virtue or sanctity, but which Chinese wisdom was right not to underrate. Every being who is not monocellular is sure to have something good in him, because he is a society in embryo, and a society does not subsist without a certain equilibrium, a mutual balance of activities. Further, the monocellular being itself would become plural if more completely analysed; nothing in the universe is *simple;* now, every one who is complex has always more or less solidarity with other beings. Man, being the most complex being we know of, has also more solidarity with respect to others; moreover, he is the being with most consciousness of that solidarity. Now, *he is the best, who has most consciousness of his solidarity with other beings and the universe.*

The essential purpose of education, as I have pointed out, is to create, by direct suggestion or repeated action, a series of habits—*i.e.*, of permanent reflex impulses, capable of strengthening the other impulses of hereditary origin, or, on the other hand, of substituting themselves for them and arresting them. The most certain remedy for *temptation* assailing the instincts is, therefore, as all educators are more or less aware, suggestion by precept and example, by idea and action. Children like firmness, even if it affects themselves. An energetic will, employed for what is good and just, imposes itself on them; just as they admire physical strength, so

they admire moral strength, which is *will:* this is an hereditary instinct, and salutary for the race. Now, as a child always models itself on those around it, and imitates especially what in them most strikes it, to have power of will is to make the child have it: to set the example of firmness in what is just and true is to make him in his turn just and true. But the educator must proceed in a manner entirely different from that of the trainer, who tries from the very first to arouse in the animal a tendency to mechanical obedience. The object is not to *break* the child's will, but to prevent the struggle with the paternal will — *i.e.*, to direct and simultaneously strengthen the will. What, then, is true authority, and how should it be exercised? Authority is composed of three elements — 1st, affection and moral respect; 2nd, the habit of submission—a habit born of practice; 3rd, fear. Each of these three elements enters into the sentiment of authority, but ought to be subordinated to that of affection. Affection renders harsh authority and punishment useless. A loving child obeys lest he should "give his parents pain." The child needing punishment is the child lacking affection; lavish on it enough love, and blows will be unnecessary, for love begets love—the most powerful weapon in all education.

Besides, affection should be a reward earned by the child for its conduct. "Be good and you will be loved." And it must attach such a value to the reward that all else is as nothing in comparison. With the advent of reason the child must first reach the point of casting out fear, and then obey; not because it is in the habit of obeying, but because it respects and loves—especially because it loves; for

respect is at bottom nothing but affection. But reason ought only to suppress the two latter elements —fear and the habit of submission—when affection is strong enough to compensate for them. Analysis applied to submission by habit destroys it, by making it a matter for discussion. To the sentiment of fear analysis is still more unfavourable; fear is only moral when spontaneous, when produced rather by respect than dread. If the child passes from this stage to that of reason, he will put the satisfaction of acting as he likes in one scale, and punishment in the other, and then he will either be a coward and give way, or he will harbour a rebellious spirit. The child is not like the criminal, whom society strikes without troubling itself about the mental impressions punishment will produce. It is therefore very important to prevent this spirit of analysis from dissociating in the child at too early a period the elements which constitute in his eyes respect for his parents.[1]

Corporal punishment in the very young may enter into the sentiment of moral authority as a constituent element, but this element ought not to have too much prominence, nor should it encroach on the others; otherwise it alters the sentiment of moral authority and replaces it by cowardly fear or a rebellious spirit. In order to decide when in full knowledge of the circumstances whether the corporal punishment of little children may be useful, we must lay down the general principle that in no case should the parents

[1] Practical conclusion: a child should never be allowed time for reflection; he should yield to a spontaneous movement, should be carried away by repentance for his fault. It is important that he should at once understand that the punishment inflicted on him is just —that he has deserved it; in a word, he must be morally punished by remorse for the fault committed.

show brutal anger to the children; otherwise the latter, following the example set them, will feel themselves in their turn justified in being passionate and brutal. Parents may be *indignant* with a mischievous or unjust act in proportion as the child acted mischievously or unjustly, but they must not show *violence.* The justification of corporal punishment at a tender age is that a child will undergo, later in life, the ruder consequences of his acts; but as these consequences do not always follow the immediate accomplishment of the action, and as the child is too short-sighted to foresee the future, it follows that he cannot connect effect and cause. Corporal punishment, inflicted after an act which he knows to be a bad act, should appear to him the logical sequel of that act, although it is a sequel conjoined with it merely by the will of his parents. Trivial corrections ought never to be inflicted on children at random; they constitute their first experience of the social sanction, their first punishment after a verdict. We cannot, from the pedagogic point of view, help approving of that influential elector in mid-France, who, when he had to chastise his children rather severely, requested that the rod should be wielded by the hands of the deputy of the department.[1] Unfortunately every elector has not got his representative at his disposal. It is none the less true that the least blow given to a child, under the most trivial circumstances, should have the grave character of justice—never of passion. The child being pre-eminently a creature of routine, it is in itself a grievous matter to him to have imposed upon him something abnormal; and, on

[1] Authentic.

the other hand, to be effectual, every chastisement should be abnormal, exceptional, and reserved for cases of open disobedience. The essentially exceptional character of punishment makes it formidable, and may make it a powerful means of acting on the child's mind. If scoldings and whippings are of daily occurrence, the child will get as accustomed to them as to sugar-plums, and that at the expense of his character.

A moral colour must always be given to punishments. By provoking fear, punishment creates hypocrisy; here then, again, we must not develop fear alone in the child, but moral remorse for having displeased his parents. Punishment should be merely a *symbol;* moral pain should be first blended with physical pain, and then substituted for it. Still less should two reprimands or punishments follow close on each other, whether for the same or different offences; by doing this we exhaust the moral effect of the reprimand, and produce in the child the habit of being punished, which would be a deplorable result. When, a few moments after having been punished for a trivial offence, the child begins to "sin" again, it is better to close one's eyes to the new offence, or suddenly change one's tone. Especially when we anticipate a bad intention on the child's part, it is important to distract his attention, and thus nip the misdeed in the bud. We ought, in fact, to husband our reprimands as a soldier husbands his resources in time of war. Reprimand or punishment can never produce their moral effects at the moment of infliction; they must have time to act before they can take their place among the habitual motives of the child. *Punishment does not act by itself, but only*

when transfigured in recollection. Time is an essential factor in the formation of child-morality, and the educator should not proceed by revolution, but rather, as nature does, by uniform evolution.

No doubt the object is not to make little reasoners of children, and we have even seen that sometimes reasoning and the spirit of analysis should be distrusted; but we must make children understand that a parent's orders are always reasonable and capable of explanation, even when the explanation is beyond the grasp of the young mind. There ought thus to be associated with the natural affection and respect of a child for its parents a perpetual vote of confidence in them; they ought to know, once for all, that their parents only wish their good, and good in general. If, then, the art of education in the first place consists in forming good habits, it also consists, in the second place, in strengthening *those habits by the consciousness and by the belief that they are rational.*[1]

Every recognised profession, every social status, may be psychologically defined as a totality of constant and co-ordinated suggestions which urge to action

Further, "of all the errors in education the worst is inconsistency; just as, in a community, crimes multiply when there is no certain administration of justice, so in the family an immense increase of transgressions results from a hesitating application of rules and punishments." "A weak mother," says Spencer, "who perpetually threatens and rarely performs—who makes rules in haste and repents of them at leisure—who treats the same offence, now with severity and now with leniency, as the passing humour dictates, is laying up miseries for herself and her children. She is making herself contemptible in their eyes. Better even a barbarous form of domestic government carried out consistently, than a humane one inconsistently carried out." "If," says Jean Paul, "the secret mental fluctuations of a large class of ordinary fathers were brought to the light of day, they would run some-

conformably to an idea or general type present to the thought. Suggestions springing from a profession may be detected in action in what M. Richet has called "the objectivation of types," by means of induced somnambulism. If a hypnotised subject thinks he has become a general, he will act as a general, assume a tone of authority, and no longer wish to recoil from danger; he will draw his sword if accused of cowardice; if transformed into a good citizen, he will act as a citizen, etc. Given any type whatever to be realised, all the secondary features of that type will be faithfully followed out in the reproduction of it attempted by the subject; his tone of voice, his gestures, and even his writing will undergo very appreciable modifications. So it is in life: our social status constantly suggests to us, in all circumstances, and often even in spite of hereditary tendencies, the conduct appropriate to that status; moreover, that is why a regular profession has always a greater moralising influence, because its suggestions are always accommodated to social life; the absence of a profession at once deprives the individual of a whole class of social suggestions, and thus leaves him an easier prey to the influence of individual passions or hereditary inclinations. Not only a profession, but

what after this fashion: In the first hour, 'the child should be taught pure morality;' second hour, 'the morality of expediency;' third hour, 'you do not see that your father does so and so;' fourth hour, 'you are little, only grown-up people do that;' . . . seventh hour, 'bear with injustice and have patience;' eighth hour, 'but defend yourself bravely if any one attack you;' ninth hour, 'dear child, do not make so much noise;' tenth hour, 'a little boy ought not to sit still doing nothing.'" And Jean Paul reminds us of the harlequin who appeared on the stage with a bundle of papers under each arm, and who answered when asked what was under his right arm—"orders," and when asked what was under his left—"counter-orders."

even a uniform has an incomparable suggestive power, and legislators have, not without good reason, always attached much importance to the uniform. It is not mere childishness; it is, so to speak, the profession itself, made visible to him who exercises it; it is a complete regulating principle of systematic action, made palpable in the cut of a garment. The habit does not make the monk, it is true; but respect for the habit often counts for much in the conduct of the monk. There is one profession that is universal —the profession of *man;* one *rôle* is common to us all —the *rôle* of the *social being;* the idea of society and sociability must therefore be suggested from childhood, and made a living idea, so that it may accommodate to itself the whole being; the ideal of the existing human race must be raised above hereditary instincts, and gradually modify them in its own direction. Let the child have presented to its mind from the earliest period those words of Benjamin Constant, which sum up all non-egoistic life: "The great thing to be considered is the pain we may cause to others." Some sentiments are social, and others unsocial; the former must be carefully developed, and the latter must be carefully suppressed. And unsociability lies in embryo in certain mental states which are apparently of no serious import. For example, very early in life, from eighteen months to two years old, every tendency to sulkiness in the child should be combated. Sulkiness is, in fact, nothing but a first manifestation of unsociability. The formula of sulkiness is: "A love of displeasing those who displease us." Sometimes with sulkiness is joined a lethargy of the will, which, in the presence of another's will, gives in, for fear of defeat, and

much prefers confessing itself beaten to engaging in conflict. We must also habituate children to speedy reconciliation with the person who has reproved them. A child of three or four years of age, having committed some peccadillo for which he was scolded, several times asked permission to embrace his mother, but the latter obstinately refused; the child, in consequence, conceived such a feeling of rancour, that he acquired the habit of sulking every time he was afterwards scolded. Once more, we can only make a child obey by making him love; and on the other hand, we can only make him love by making him obey when he is given a rational command. By letting the child get the habit of sulking, he acquires the habit of abiding by the fault he has committed without making any effort of reparation. He experiences, it is true, a vague sense of uneasiness, but this, in conjunction with the gratification of self-love, deprives him of all *active remorse.* On the other hand, if we never let a scolding pass without a rapid reconciliation and final kiss, the child will eventually be unable to bear the idea of being angry with any one; he will feel he must atone for his offence, obtain pardon, and receive the kiss of reconciliation. Thus the educator himself may lay in the child's mind the foundations of that complex sentiment, *active remorse* —the need of atonement for a fault, of re-establishing the equilibrium of the friendship disturbed and fellowship compromised.

Bad temper is another unsocial tendency — a tendency, moreover, which is depressing to the individual. Bad temper is a very complex mental state, which it is of great importance to overcome at an early age. It is relatively easy to repress

this or that movement of anger, jealousy, or impatience; but with these may be blended a general sentiment of bad temper, which afterwards will assume countless forms and be betrayed in a hundred ways; it will form a moral atmosphere surrounding the whole mind from which it will be very difficult to emerge. A child thwarted unwisely and at every turn acquires in some measure a habit of melancholy; he gets a habit of wrapping himself up in himself, his heart big with his little grievances, and of turning them over in his mind; later, it is to be feared, discouragement will have more effect upon him than upon others. Bad temper contains in embryo all the derangements of those who have lost their mental equilibrium—derangements so acutely expressed in all our modern literature. It is a good thing to accustom children to the gaiety and solid good humour of those who have nothing to reproach themselves or others with, who have, to use the popular phrase, "nothing on their minds." A fund of gaiety which follows him through life, and which he has at his disposal in spite of every trial, is created for the child brought up in this way with indulgence and smiling affection.

The happy child is more beautiful, more loving and lovable, more spontaneous, open, and sincere. His smile lights up all around him, and gives a deep and tranquil delight like that given by a newly-discovered truth.

As society is a reciprocal suggestion, the object we should pursue in society is the increase and not the dwarfing of the sentiments. Unfortunately the latter is the result whenever we are in prolonged contact with mediocre men. The society of average men is

precious to those whose intellectual and, above all, whose moral level is below the average; but it is not without its inconveniences to those who are rather above it. Accordingly, the dominating principle of education should be the choice of companions morally one's superiors. We then develop in the right direction that sentiment of solidarity so necessary to mankind. With a certain moral delicacy we may eventually feel ourselves as even having a part in the merits or demerits of others. "The goodness of others should afford me as much pleasure as my own," as Joubert said. The goodness of others must become our own from the very sense we have of its value.

The principle of all disequilibration is perhaps moral and social. Most disequilibrated minds are wanting in altruistic sentiments; by developing in them these sentiments, education and suggestion may be able to re-establish the internal equilibrium. One of the characteristic features of the criminal class is the total absence of pity.[1] Now we cannot suppose that an appropriate education is unable to develop this sentiment even in the most poorly endowed being,—in a more or less rudimentary degree perhaps, but enough to modify his conduct. We may even at the bottom of every form of insanity discover a certain want of the social instinct, for a constant symptom in insanity is an exaggerated magnifying of self, an exclusive self-preoccupation. From extreme vanity to madness is often but a step. Now vanity or pride, the first of the deadly sins, is a form of unsocial egoism: the man whose altruistic sentiments are sufficiently developed appreciates at their true value the merits of others,

[1] Ellis, *The Criminal*, chap. iv., sec. 1, "Moral insensibility." (Tr.)

and thus finds a counterpoise to his sense of personal merit. By moral and social suggestion we may even prevent the formation of the *fixed idea* in the monomaniacs of crime and insanity—a fixed idea of which the elements for the most part combine from a very early period. To know how to "moralise" men would be therefore the power of introducing equilibrium not only into their conduct, but also into their intellect, and into the inmost recesses of their being; and this equilibrium is at the same time harmony with others—sociability.

To sum up, suggestions, the mechanism of which is now occupying the attention of our physiological psychologists, are only isolated and curious cases of the action of the environment upon the individual, of percepts on the being who perceives them. These suggestions may, as we have seen, disequilibrate the organism, but they may also, though with more difficulty, restore its equilibrium. The influence of the social environment is a power henceforth too manifest for the most exclusive partisans of heredity, of hereditary crime and vice, of the inevitable decay of certain races, not to be compelled to take it into account. Hereditary tendencies are nothing but acquired habits—*i.e.*, accumulated action; it is the action of our ancestors which is now prompting us to action, and which in certain cases disturbs our inner equilibrium. The corrective of the action thus capitalised is itself action, but in its *living* form, such as we see it in the environment that envelops us; the corrective for the harmful consequences of heredity—*i.e.*, of the solidarity of the race from which we spring—is our solidarity with the existing human race. The hereditary mechanism and the intellect react

incessantly on each other; they are two forces with which no one ought to be unacquainted :—

Every individual, by the series of acts constituting the framework of his life, and ultimately co-ordinating themselves for his descendants in hereditary habits, exerts a "moralising" or depraving influence over his posterity, just as he has been "moralised" or depraved by his ancestors.

CHAPTER II.

THE GENESIS OF THE MORAL INSTINCT. THE RÔLE OF HEREDITY, IDEAS, AND EDUCATION.

I. *Power of Habits, giving rise to a Momentary Impulse or Permanent Obsession.*[1]—Habit and adaptation—Habit and heredity—Habit and the sense of the becoming—How habit may produce an impulse—How it may produce a permanent obsession and inward pressure—Suggestion producing an obsession and a kind of obligation.

II. *Power of the Consciousness and of Idea-Forces, the Moral Agent.*—How the idea-force explains the two terms of the moral problem: volition and the object of the will—The active subject, the moral agent is constituted by a volition capable of acting by an effort to realise an idea.

III. *Power begetting Duty.*—1. Existence of a certain duty created by the very power of action. 2. Existence of a certain duty created by the very conception of action—The normal human type. 3. Existence of a certain duty created by the increasing interfusion of sensibilities, and by the more and more social character of higher pleasures.

IV. *The Dissolution of the Moral Instinct.*—Different degrees of moral dissolution:—1. Negative morality. 2. Moral ataxia. 3. Moral insanity. 4. Moral idiocy. 5. Moral depravity.

V. *Heredity and Education in the Moral Sense.* — Criticism of Spencer, Darwin, Wundt, and Ribot—Moral power of education—Its limits.

I. *The Power of Habits, giving rise to a Momentary Impulse or to a Permanent Obsession.*

We have seen, in the preceding chapter, how education and suggestion may modify the moral instinct which has become hereditary in our race. We now propose to ourselves a more fundamental and more theoretical problem: we ask ourselves if education

[1] *Vide* p. 57. (Tr.)

and suggestion, if ideas transformed into sentiments may not, with the aid of heredity, produce the moral sentiment itself. In a word, what is the share of heredity? what is the share of ideas and education in the genesis of morality? There is no study more apt to give us a deep insight into the two essential terms, in their union and in their antagonism, of the question which forms the problem of this work.

Heredity and education alike create in us *powers*, which tend to exercise themselves, and are in fact exercised when opportunity occurs. What then must be understood by the word *power?* It is an inward starting-point of activity in the individual, which is no longer a pure and simple reaction upon a shock initiated from without. To feel within ourselves the power of action in this or that direction, is to feel ourselves organically pre-adapted to a certain environment, instead of having to adapt ourselves to it by a series of experiments requiring effort. To speak of power, then, is to speak of a pre-established, constitutional adaptation, an aptitude ready to be awakened and translated into actions. Now every adaptation reduces to a *habit* of the individual or race. There is therefore no power coming into play in the individual which may not be explained by the property of *habituating* itself, possessed by all living matter and every species, and which is the very foundation of *educability.* We know that habit, on the other hand, reduces to a series of accumulated actions and re-actions, stored up so to speak, and facilitating in the future every action in the same direction. Power is therefore nothing but a kind of residuum left by past actions and re-actions; it is action, living and capitalised. For us the possible

reduces in a great measure to a habit; it is a determination of the future by a more or less analogous past; it is an inchoate adaptation. The possible is a suppressed realisation, which under certain conditions will tend to become actualised.

In its origin, even in the most rudimentary being, every action is induced directly by a stimulus, or external shock. The spring of action is placed outside the being, just as in those toys of which the arms and legs are only capable of motion on the pulling of a string. But as every accomplished act has opened a way in the organs for the accomplishment of a similar act, action becomes spontaneously fertile, and tends to reproduce itself: it is a starting-point of fresh activity. This internal starting-point of activity, habit, begets acts which are no longer the simple response to an immediate shock from without. The primitive string pulling the arms of the puppet has become the mechanism of a very complicated piece of clock-work placed within it, and only needing to be wound up *ab extra* from time to time, owing to the stimulus of periodic necessities. Habit, having become an instinct in the race by heredity, modifies the being so as to accommodate it not only to the brutal *present*, but to mere *possibilities*. This is a kind of unconscious prevision based upon an analogy between past and future. Hence proceeds a profound modification in the most rudimentary psychological phenomena, to which we can trace the beginnings of experience: for the impact of a shock or sensation, are substituted promptings from the very depths of the being, urging it to action, without, so to speak, precipitating it into action. The impetus of a sensation is thus prepared for, mitigated, and often avoided by

the organisation of habits, by the much gentler and much more intelligent inward springs of a less suddenly imperative action.

Now it is important to distinguish between two kinds of habit or adaptation to the environment : first, the adaptation of a passive being to an environment always the same—for instance, of a rock to the surrounding air, or of a plant to a given climate ; second, the adaptation of an active and moving being to an ever-varying environment—for instance, that of a man to the social environment—which is a real *education.* The first adaptation is made once for all ; it is passive, and may give rise in the being to new *properties*, not to new *powers*, or new activities. The second is always unfinished : it comprises a system of reactions which is always incomplete, without, however, being entirely wanting ; it therefore urges to an action which is only automatic in its most general direction, but which, in detail, gives rise to a multitude of spontaneous and even self-conscious acts. Thus every habit of action, every active instinct, tends to awaken the intellect and activity, instead of entirely repressing them by automatism. Natural history might furnish us with an infinite number of examples.

There exists then, at the outset, a formless and obscure *nisus* of life, no doubt already endowed with a vague consciousness, and in every case with the faculty of *habituating* itself, identical with what has been called the organic memory. The first manifestation of this more or less unconscious memory of the living molecule is *reflex action.* Reflex action constitutes a fixed formula in the fluctuating changes of life, an elementary but definitely-formed track in the

education of the being, and in its complex adaptation to its environment.

When the reflex action is impeded or checked, it tends not merely to produce consciousness, but at the same time (and I do not think this simultaneity has received sufficient attention) *pain* and *consciousness*. Consciousness, in its origin, could only be due to the vague formulation of pain by a kind of inward cry; it is the solidarity of all the living atoms in presence of some danger, a kind of echo of peril within the being itself. Pain sets in motion all the activity at the disposal of the organism to repel the causes of derangement. So, when the country is in danger, it is clear that all its members will display an activity directed towards a single purpose—an activity much greater than if it were merely a question of a national fête. There is more solidarity of the organisation in pain than pleasure. Hence the utility of consciousness for the preservation of the individual, and hence, therefore, its increasing diffusion. The total consciousness no doubt is in its origin only a propagation and multiplication of different cellular consciousnesses in a tremor of alarm: it is not the calm self-inspection that psychologists have a tendency to represent it as being. Little by little, after a series of impeded reflex actions—*i.e.*, of interrupted adaptations—is formed the power of constantly re-adapting oneself, of incessantly moulding oneself in conformity with one's environment. It is this power of continuous re-adaptation, this habit of constantly re-habituating oneself, which is at once the basis of the intellect and of the volition properly so called, and which consequently is the main-spring of all education. Intellectual or moral activity is, so to speak, a *broad* and infinitely

flexible adaptation, allowing a large number of re-adaptations in detail, and of corrections of every kind. In other words, intellectual and voluntary power reduces to a habit of acting in a certain *general* direction,—a habit continually transformed, following the particular transformations of the changing environment in which it is exercised.

These facts being established, what may be deduced concerning the genesis of morality, and what part in it is played by education in all its forms? Let us first notice that even in the consciousness of the habit, as such, there is already something moral or, at any rate, something æsthetic. In fact, beneath every moral or æsthetic concept is to be found as an essential element, the idea of order, arrangement, and symmetry. The æsthetic pleasure caused in us by order is explained by the pleasure of repetition (the repetition of certain movements of the retina, etc.); the repetition of an act, in its turn, is agreeable to us only from the facility attained—a facility springing from habit. *Order*, then, reduces subjectively, in a great measure, to *habit.* Similarly, the most elementary form of moral order is regularity, and in connection with others, reciprocity—*i.e.*, the repetition of the same acts under the same circumstances by one or several individuals. To be *perfectly accustomed* to a thing—that is to say, to perceive it without experiencing any resistance in any of our senses, and in any of our intellectual or motor activities—is almost tantamount to feeling it to be beautiful or good. Every habit begets a kind of personal rule: the act accomplished without resistance in the past becomes a type for action in future. Habit, in fact, is a force having a

certain pre-determined direction; it is therefore the centre of a system of actions and sensations, and it is enough for it to acquire self-consciousness to become an active and controlling sentiment; it is a *sentiment-force.* The *idea-force*, to which I will come later, marks a still higher degree of evolution. Habit, in a word, has a canonical and educative virtue; it is the primitive rule of life. The *becoming* is in a great measure the *habitual.* Every habit tends to become a force imposing itself on things and beings, a formula of action and personal education, an immanent law, *lex insita.* We may even ask if every law, including the laws of nature, does not reduce to a habit.

Ceremony, which is a higher development of habit, has not merely a religious value; it has also a moral value. Now, ceremony, as I have said elsewhere, arises from the need of reproducing the same act under the same circumstances—a need which is the basis of habit, and without which life would be impossible. Further, there is something sacred, to the primitive man and the child alike, in every habit, whatever it may be; on the other hand, every action, whatever it may be, tends to become a habit, and hence to assume a venerable character—in a measure to consecrate itself. Ceremony, then, from its origin, has to do with the very basis of life. The craving for ceremony is very early manifested in the child; not only does it imitate, and imitate itself, repeat, and spontaneously repeat itself, but it exacts scrupulous accuracy in these repetitions. The child is naturally curious, but it does not like to urge curiosity to the point where it might violently contradict what it knows already, or thinks it knows. And

in a measure it is right; it only obeys a powerful instinct of intellectual preservation: its intellect is not flexible enough to be perpetually tying or untying the knots or associations it establishes between its ideas. It is therefore by a kind of instinct of intellectual protection that primitive races attach so much importance to their customs and ceremonies. In the same way, all the acts of life, both the most insignificant and the most important, are classed in the child's mind, rigorously defined according to a unique formula, and modelled on the type of the first act of the kind it has seen performed, without its clearly distinguishing between the *reason* and the *form* of an act. This confusion of reason and form exists in a no less striking degree among savages and primitive races; and it is upon this very confusion that the sacred character of religious ceremonies rests.[1]

Once incarnate in the being, how does this inner law of habit manifest itself? I have shown in my *Esquisse d'une Morale* that the power of habit may give rise to a momentary impulse or to a permanent obsession.

The power accumulated by habits, instincts, and mechanical associations, in many cases no sooner appears on the threshold of the consciousness than it is translated into actions. In these cases there is a sudden and momentary *impulse*. The impulse that meets with no obstacle—even that of delay in time—is only a kind of *reflex action*, passing like a ray of light across the consciousness to afterwards re-enter the shade. No impulse, which is in this manner isolated by the rapidity of its action, is capable of eliciting the complex phenomena which constitute

[1] Vide *Irreligion de l'Avenir*, p. 92.

moral life. It is a force which only momentarily gives rise to a conscious idea, and leaves no deep trace on the mind. The moral and social instinct, in its primitive and perfectly elementary form, is an expansion which has almost the suddenness of a reflex. It is a spontaneous impulse, a sudden unfolding of the inner life towards another, rather than a self-conscious respect for "the moral law," and a search for "utility" or "pleasure." We must also notice that with the actual development of the human intellect and sensitiveness, it is impossible to discover the moral impulse in this state, bordering as it does on reflex action, apart from the intervention of general, racial, and indeed even metaphysical ideas. Hence, it is in the case of animals especially that we must with Darwin search for the moral and social impulse in its naked form. We may recall the instance of the baboon which, seeing a young monkey, six months old, surrounded by dogs and in a desperate situation, descends the mountain, throws itself into the pack in a genuine fit of madness, snatches the young monkey, and succeeds in carrying it off in triumph.[1]

The impulsive force of social tendencies is powerful enough to precipitate into action those who are habitually the most incapable, and whom the conscious sentiment of duty would find irresolute and impotent. M. Ribot quotes the case of a patient suffering from *aboulia*, who found all his energies restored in trying to save an injured woman.[2] At other times the

[1] Vide *Esquisse d'une Morale.*

[2] I may add that this patient was finally cured by the excitement of the events of June 1848—again an emotion of a social or at least ego-altruistic character, which shows the power of the social element in the individual.

spontaneous sentiment of duty, instead of urging to action, suspends it abruptly ; it may then develop what Messrs. Maudsley and Ribot, with the physiologists, would call a power of arrest or "inhibition," not less abrupt or violent than the power of impulse.[1] And instinct shows its power still better by suspending than by provoking action. In the second case there is nothing to overcome but the force of inertia proper to an organism in repose ; in the first case it has to strive against the force accumulated in a certain direction. Experiments on suggestion readily confirm this. It is very difficult in the waking state to persuade a person that he cannot open his hand ; but if he has been previously asked to hold tightly an object in the closed hand, and if, profiting by this preliminary tension of the muscles, we suggest to him that he will be unable to open his hand, he will often find himself really unable to do so.

M. Bernheim having met a subject who thought himself capable of resisting his orders, even in the hypnotic state, told him to whirl his arms round, and asserted that he would be unable to stop ; and in fact he could not stop, and continued the gyratory motion of his arms, like that of the sails of a windmill.[2]

In my *Esquisse d'une Morale* I quoted a case of sudden arrest of action produced by the sentiment of duty, blended with sympathy and gratitude. " A man, with a resolute intention of drowning himself, throws himself into the Seine, near the Pont d'Arcole. A workman leaps into a boat to save him, but being an unskilful oarsman, the boat is dashed against a pier of the bridge, capsizes, and the would-be saviour

[1] Vide, *Esquisse d'une Morale.*

[2] Moll, *Hypnotism*, p. 61. (Tr.)

disappears beneath the surface just when the would-be suicide comes to the top again. The latter incontinently abandons his intention of suicide, swims to his rescuer, and lands him safe and sound on the bank." A similar occurrence more recently took place between two dogs—a Newfoundland and a mastiff—who fell into the sea in the midst of a furious fight on the jetty at Donaghadee. Immediately the instinct of rescue was awakened in the Newfoundland; quickly forgetting his anger, he brought his adversary to the bank. But for this the latter, being a poor swimmer, would have inevitably been drowned.

We must remember that certain instincts in animals possess the same power of suspending an act begun. The *pointer*, for instance, seems, so to speak, nailed to his place, as if by a mysterious command, just when all his other instincts lead him to bound forward. Romanes tells of a dog which had only stolen once in its life:—"One day when very hungry he seized a cutlet and carried it off under the sofa. I saw this, but pretended not to have seen anything, and the culprit remained under the sofa a few minutes, divided between the longing to assuage his hunger and the sentiment of duty; finally the latter triumphed, and the dog came and laid at my feet the cutlet he had stolen. Having done this he returned to his hiding place, whence no blandishments could induce him to issue. In vain I gently patted his head; my caresses only made him hang down his head with an irresistibly comic air of contrition. What gives peculiar value to this instance is, that the dog had never been beaten, so that the fear of corporal punishment cannot have made him act in this way. I am therefore compelled to see in these actions instances of a development of

the consciousness as elevated as the logic of sentiment can give rise to without the logic of signs—*i.e.*, in a degree almost as high as we find in the lower savages, little children, and a large number of idiots, or uneducated deaf mutes."[1]

The social instinct, by the force of natural selection, eventually permeates so thoroughly the whole being in all its parts, that, if we cut an ant in two, the head and upper half of the body, which can still walk, continue to defend the ant-hill, and to carry off the females to a place of safety. This is a degree of spontaneous impulse which human morality has not yet reached. For this, every fragment of the social self would have to live and die for others, our life would have to be blended, even in its deepest springs, with the social life in its entirety.

The impulsive action of an hereditary or acquired habit assumes a more and more remarkable character when it takes the form, no longer of an impulse or sudden restraint, but of an inward prompting or persistent tension. This is obsession. Obsession is the perception of the effort with which an impulse enters into the field of consciousness, maintains itself there by trying to subordinate to itself the other tendencies it encounters in that field, and seeks to prolong itself in action.

There are two chief starting-points of mental obsession: habit (or instinct, which is an hereditary habit) and suggestion (conscious in voluntary imitation and obedience, unconscious in the phenomena of hypnotism). Obsession—*i.e.*, an impulse persisting in the midst of internal obstacles—is an important element which will enter at a later stage into the

[1] *Vide* the collection of instances in *Animal Intelligence*, c. xvi. (Tr.)

very complex phenomena of obligation. The marked distinction between them is due to the fact that obsession may have nothing rational in it, may urge us to acts repugnant at once to all our logic and all our sentiments. Obsession may be perfectly irrational, as in the case of the insane and maniacs. We should notice that wherever it is produced it always endeavours to become rational, to explain itself to itself, to insinuate itself surreptitiously into the main current of *ideas* which is continually passing through the mind. This is why mad people always have in reserve more or less plausible explanations of their most extraordinary acts, even of their irregular gestures, as in the case of the madman who explained the nervous agitation of his arms by asserting that he was weaving sunbeams to make himself a garment of light. Cases of hypnotic suggestion are pre-eminently able to furnish us with the most striking instances of the fertility of the intellect when an act in which reason has had no play has to be justified on rational grounds.[1] We know the case of the somnambulist who had been told during sleep to come to the magnetiser at a certain hour on a certain day. On the appointed day she arrives at his house in the midst of a dreadful thunderstorm, and as she can recall nothing of the imperative order she has unconsciously obeyed, she finds a whole series of plausible reasons to explain her visit. We may say that there is nothing so suggestive to the intellect as an instinct which has not its origin in it. Manifesting itself in the form of a fixed idea, before long it constitutes an intellectual centre, around which all the ideas crystallise and group themselves in the most unexpected relations.

[1] Moll, *Hypnotism*, p. 152. (Tr.)

A person she mortally hates is mentioned to Miss X. when in the somnambulist state; her anger is aroused, and she says she will never forgive her. After a few moments' exposure to magnetic influence, her face expresses compassion; the action of the magnet, while modifying the functional activities of the nervous system, has modified the course of concomitant emotions, and the new emotions are straightway formulated in this moral theory: "Poor wretch," she cries, "she did me a bad turn because he loved me too much. I cannot really hate her."[1]

As Dr. Bernheim points out, susceptibility to suggestion is nothing but an aptitude for the transformation of idea into action.[2] Many experimenters record the state of anguish into which the hypnotised subjects fall when the time for acting out a suggestion arrived. This anguish may be explained by two causes. The first is the very search for the object suggested; they know they have something to do, but what? An effort has to be made to draw from the depths of the unconscious the formula of obligation they feel within them. The second cause is that, even when the obligation is clearly formulated, they are in the presence of an action not habitual to them, or which is contrary to established ideas, which, in fact, presents something peculiar; and suggestions always have this character, since by their very oddity the experimenter recognises his power.

From the preceding we may conclude that every formula of activity which is obsessive in character, and which consequently monopolises the field of consciousness, *tends* to become, in this relation, a formula

[1] *Revue Philosophique*, February 1887, Bianchi and Sommer.

[2] What about suggested hallucinations, etc.? (Tr.)

of obligatory action; all obsession strives to develop into an obligation on its emergence into consciousness; the rude mechanism of the impulses tends to organise itself in a mental and, up to a certain point, a moral order.

II. *The Power of the Consciousness and Idea-Forces, the Moral Agent.*

The force of the idea simultaneously explains the two terms of the moral problem: the volition and the object of the will. The volition is essentially the power of simultaneously representing to oneself, before the action, all the contrary motives to action or inaction, by eliciting from this complexity of motives not the state of indecision, but the perfectly self-conscious resolve; the impulsive force of motives thus appears proportional to their rational character, and thus the volition is the germ of morality itself. In the well-organised being is created, to use a happy expression of M. Ribot, a series of *corrective* states of consciousness, *depressive* in character, which are indissolubly associated with states of consciousness of which the consequences would be harmful; thus, for instance, the desire to touch, awakened in the child by the brilliancy of the flame, is habitually associated with the fear of being burnt—a depressive state which eventually annihilates the prompting of the desire.

The Buddhist or Christian monks used to say that if a beautiful body excited in them an unhealthy desire, the thought of that body as the corpse it was soon to be was enough to cure them. This is an example of a depressive state of consciousness

associated with an impulse. A being is capable of education and morality, in proportion as it is capable of volition, in proportion as there are operative within it, in endlessly increasing complexity, those associations which bring into consciousness an almost simultaneous survey of all the possible effects of an act. If, with M. Ribot, volition is defined as the reaction of the whole individual character in a given case, we must conclude that an act is only really voluntary if with the strongest tendency that produced it coexist weaker and duller tendencies which, under other circumstances, might have produced a contrary act. A complete volition—*i.e.*, the total evolution of internal energies—presupposes that to the representation of the act itself is presently associated the weakened representation of the contrary act. And then we reach this conclusion: There is no completely voluntary act—or what comes to the same thing, no completely conscious act—which is not accompanied by the sense of victory of certain internal tendencies over others, and, consequently, of a possible struggle *between* these tendencies, and therefore of a possible struggle *against* them.

Liberty pre-eminently consists in deliberation. Choice is only free if it has been deliberate; we must look for the real principle of liberty behind the mere act of decision in that period of examination which precedes it, and in which the intellect is brought into full play. Now deliberation, far from being incompatible with determinism, cannot be understood without it; for a deliberate action is one for which one can fully account, and is therefore entirely determinate. There is no liberty apart from deliberation; and, on the other hand, deliberation

consists simply in the determining influence of the best motive elicited by a rational process. To be free is to have deliberated ; to have deliberated is to have submitted to, to have been determined by, real or apparent motives. It seems, then, that deliberation is the point at which liberty and determinism are fused. Why do we deliberate? to be free. How do we deliberate? Through a balancing of the motive forces inherent in feelings[1] and ideas which operate by a necessary mechanism. But why do we wish to be free? I answer, because we have learned by experience that liberty is a thing practically advantageous for us as for others. Liberty, like all accumulated power, derives value from its possible consequences.

We must notice that, under certain conditions, fatality, the grossest form of slavery, cannot fail to assume the appearance of liberty. If a dog were held in the leash by a master who wished to go exactly where the dog wished, and as quickly as it wished, the dog would fancy itself perfectly free. A fish in a globe of water, and perpetually attracted to the centre of the globe by a tit-bit, or for some other reason, would not have the least idea it was confined by the vessel. How, then, should we fail to believe ourselves free, being as we are in a position infinitely superior to that of the dog or fish? No one, of course, holds us in leash or in prison ; our slavery only consists in doing exactly what seems good to us ; we only obey our preference,—whatever pleases us most. Add to this that no one can ever foresee with absolute certainty

[1] It seems difficult to find simple words completely expressing *mobile* or *motif*. The *mobiles* are *sentiments*, *passions*, etc., influencing the volition—*i.e.*, are *emotional*. The *motifs* are *ideas* influencing the volition—*i.e.*, are *intellectual*. A *mobile* is initiation of action by *feeling*. A *motif* is initiation of action by *ideas* or *ends in view*. (Tr.)

what we will prefer to-morrow, which is easily explained by the perpetual variation of our motives. Each of them, being a thought, is really a living being, which is born, grows, and decays within a few moments. All this is enacted within us. Hence we believe our liberty absolute and indeterminate, because of the infinite number of motives which determine us. And we are satisfied within the limits in which we are. When Christopher Columbus landed in America, he thought he had discovered a continent: it was only an island, but the natives had never experienced a desire to explore it completely; they therefore thought it extended indefinitely. This infinity of motives prevents all fixed equilibrium, and forbids all prevision on the part of the external observer. As far as we are concerned, to end this struggle of motives, all we want is a mere desire; nay, further, the mere thought of this desire is enough. An action conceived as possible is *ipso facto* of itself sufficient to give us the power of realising it. We can never, therefore, conceive of an action as impossible, for the mere conception of that action makes it possible; hence we are necessarily free in our own eyes. We may always wish for what appears to us more desirable than anything else, precisely because it appears to us as such; and we shall therefore never feel our chains. Thus is produced the delusion of free will,—a lower degree of freedom. Certain desires and passions, even when we willingly follow them, show us only too clearly that it would be difficult to act otherwise;—*e.g.*, love and hatred. We abandon ourselves to these passions, and feel they are our masters. Running down a rapid slope, and really wishing to run down, we cannot say we do not wish

to run down, although we feel ourselves impelled forward and mastered by a stronger force. That is how passion acts. That is why a more complete liberty appears to be deliverance from violent and coarse passions. Liberty of action is above liberty of desire. Reason alone can suspend its own action in time, can alone ignore habit,—the acquired force. That is why reason and liberty are identical.

If now we notice, with M. Ribot, that the distinctive characteristic of the voluntary act is that it is not the simple transformation of a detached state of consciousness, and that on the contrary it presupposes the participation of the whole group of conscious or sub-conscious states which constitute the individual at a given movement, we shall conclude that the very idea of such an act, of an act in which our whole being participates, is the idea which will beset the consciousness with most force, because it is blended, so to speak, with the whole consciousness. The idea of a voluntary act is therefore by its very definition the idea-force[1] which possesses most practical power in our consciousness.

Every idea being the representation of a possibility of action or sensation (the sensation itself may be resolved into an action), it follows that the group of conscious or sub-conscious states that constitute the ego is nothing but the shifting equilibrium of *representations of action*, to which corresponds an impulsive force, roughly proportional to the force of the representation itself. Our ego is but an approximation, a kind of permanent suggestion. It does not exist, it is in the process of making, it will never be complete. We shall never succeed in reducing to complete unity,

[1] For "Idea-Force," *vide* Preface.

in subordinating to a thought or central volition, all the systems of ideas and tendencies which are struggling within us for existence. All life is a deformation, a disequilibration—seeking, it is true, a new shape and new equilibrium. Those patients whose personality is doubled or even trebled[1] show us, in an exaggerated form, the phenomenon constantly going on within us — the coexistence of several centres of attraction in our consciousness, of several currents crossing the field of consciousness, each of which currents, if not limited by another, would submerge us and carry us away. Our *ego* is only a line of division between the different currents of thought and action which pass through us. In the depths of each of us there are more *selves* than one, whose shifting equilibrium constitutes what we imagine is our real *self;* which is, in fact, only our *past* self; the figure traced by the mean resultant of our antecedent actions and thoughts, the shadow we cast behind us as we pass through life. This ego is only ours in so far as our past determines our future; and there is nothing more variable than this determination of the future of a being by its past. It is true that our body serves us as a centre of reference; it is the basis of our personality. But the body itself is for us only a system of perceptions, and therefore of sensations, which, from a deeper point of view, reduce to a system of favoured or thwarted tendencies. Our body is constituted by a co-ordination, in unstable equilibrium, of every kind of appetite; it is only the rhythm according to which these appetites are balanced. Without the law of habit and of economy of force, by which a being is always tending to repeat itself, to

[1] Mercier, *Sanity and Insanity* (Walter Scott), pp. 367-369.

project the image of itself into the coming time, to reproduce its past in its future, our ego would be lost in each of our movements—we should be constantly losing ourselves. Our ego is therefore an *idea*, and an "idea-force" which maintains our identity—though that identity is incessantly threatening to disappear into peculiar and present phenomena; it is a regular grouping of conscious or sub-conscious possibilities. What we call a state of repose, is the moment when these possibilities are in equilibrium. Action is a disturbance of that equilibrium, and as every such disturbance requires an effort, the possibility which is victorious must first triumph over a certain resistance before the machine is set in motion. We feel this resistance, and that is why the beginning of every voluntary action has something painful in it. At the same time, every voluntary effort, as such, is a germ of moral energy, an education, a beginning of moral character in the subject, abstraction being made from the object to which it is directed.

To properly realise the most elementary part of moral energy, we must carry ourselves back to primitive man, incapable of any voluntary process, of any tension of the will which is not the mechanical expansion produced by a momentary need—incapable, in fact, of any kind of intellectual attention. For such a man the action not immediately demanded by a need, requiring a certain share of reflection, calculation, or consecution of ideas, becomes after a fashion meritorious. Every act which in its initial stage is a thought or sentiment, instead of being a simple answer to a brute sensation, everything which is raised above a simple reflex action, *ipso facto* assumes a moral character. The Turk, with his oriental

inertia, in the eyes of the moralist will have some merit when he repairs a house that is tumbling into ruins, when he fills up the ruts in front of his door, or when he hastens his leisurely gait to help another,—even from some motive of self-interest. *A fortiori*, the primitive man will have displayed a rudimentary moral energy in the construction of his first hut, or in fashioning his first tools. When premeditated and organised action begins—action willed in its successive stages—some element of art, morality, and personal education is already shown. This is because, when the will pursues an end, immediately the sense of effort of resistance to overcome arises, and because the first act of morality was effort intentionally sustained,—the active and painful realisation of any idea, however naïve and elementary it may have been. The function—at once the deepest and simplest—of moral life is to realise in this way an idea or sentiment by a self-conscious effort.

If every self-conscious action requires a certain effort or a certain tension of the will to disturb internal equilibrium, and if it thereby presents a moral character, it is no longer so when we act in consequence of an immediate need, and still less so when this need is of the most definite, pressing, and present character—as, for instance, hunger and thirst. The inner equilibrium is disturbed, to start with, by suffering, by a discomfort to which action alone serves as a remedy. At this stage, action is no longer the result of an inward and self-conscious tension, but rather the result of a spontaneous expansion; the action bursts into being of itself, just as we are subject to a burst of laughter or tears. Hence it follows that we act without the sense of effort. On the other

hand, the sense of the effort necessary to commence an action increases in proportion to the ill-defined and indistinct character of the need requiring the action. This is why, in the early days of weaning, a real effort and a first step in education are required in order that the child may begin to take the nourishment offered it. It experiences a need that is very real, which is not yet associated in any definite manner with this or that food, specified by sensations of taste; the need remains an indeterminate suffering, and the child is disposed to passively await the cessation of that suffering; it cries and does not know it is hungry, sometimes even it rebels against the effort of mastication and deglutition. It is only by a series of experiments, adaptations, and associations, by a more or less tardy education, that all physical suffering in the living being, combining at once with the representation of its remedy, becomes the immediate spring of this or that determined action. All pain, therefore, tends to become only the translation into sensible language of a possibility or necessity of action; hunger is the possibility and necessity of eating; thirst, the possibility and necessity of drinking; as soon as the animal has felt the need, it sets to work to find the remedy. The disturbance of equilibrium in the inward energy begins with the sensation itself, and the sense of the need of action suppresses the sense of the effort involved.

Accordingly desire must not be confounded with duty. There are two kinds of desires—the desire of enjoyment and the desire of action. The first results in the clear representation of an external object, with reference to which the moral agent is in a state of passivity; the second results in the representation of a state of

inward tension, of an action or group of actions depending on the moral subject. Although, at bottom, there is always partial passivity within us, it increases when we are a prey to any desire ; it decreases, on the other hand, when we feel ourselves urged forward by the consciousness of a duty—*i.e.*, by an active idea of a higher order, which opens for itself a way through the environment of internal or external resistances. The very enjoyment of a duty is æsthetically quite different from all other enjoyments ; its serious character is its distinctive mark to the impartial observer, and this character may certainly place it, in the case of many people, outside the reach of everyday life. This or that noble piece of classical music, for example, will exert no attraction on men whose musical taste is little developed. Morality, it might be said, is the serious music of existence ; a certain education is necessary before an exclusive appreciation of its charms can be reached, before the sublime rhythm of the morally beautiful is preferred to the trivial dance airs we hear everywhere around us on our way through life.

Every time an inward tendency is awakened and revealed to itself by the presence of an external object, it seems to lose in force of *internal tension* all that it gains in force arising from external representation and solicitation. The moral good itself seems to change its nature when we bring before our minds the luxury of doing good : it then appears that we are rather persuaded than obliged to do good. It is in the effort and slowness with which the inward equilibrium is disturbed that we really obtain consciousness of obligation.

Between the desire of action and the desire of

enjoyment is the same difference as between the tendency urging the true artist to *produce* a work of his own and the desire an amateur may experience to go and *hear* the work of another. The desire of action is one of the elements of duty; and, on the other hand, duty generally excludes the desire of enjoyment. It has been said that the moral will is the power of acting along the line of greatest resistance. That is true, provided we add that the power thus revealed is greater than the said resistance. In other words, the moral subject is constituted by a will capable of acting with effort to realise an ideal. Thus, in the normal state the sense of obligation should be proportional to the capacity a man possesses of making an internal effort, or, in other words, of being led by the force of an idea—for volition is thought with a certain consecution of ideas. The sense of obligation, on the contrary, diminishes in direct ratio with the weakness of the will: feeble characters, incapable of this tension and fatigue that every resistance to the first impulse necessitates, are therefore those who will feel the least remorse, or in whom remorse will be least adapted to produce its corrective and educative effects. To sum up—to feel ourselves under an obligation, we must feel ourselves capable of sustaining an inward struggle: it is the consciousness of a force which is also a thought, the consciousness of a logic working itself out, the consciousness of an internal command. Every idea which reaches the threshold of the consciousness only penetrates it and maintains its position by a kind of restraint exercised upon other ideas. Thus consciousness itself is the result of a struggle: as the physiologists have shown, it corresponds

to a movement which maintains and propagates itself in spite of all obstacles. Every consciousness is a spontaneous choice, a natural selection, and that is precisely why it will be the moral idea which will some day suppress all others. From the action which is accumulated by habit, and which becomes reflex, springs fresh power of action ; from this power spring simultaneously consciousness and morality, the thought of power and of duty : every idea enfolds the germ of a duty. Each thinking and willing being has already within him, because he thinks and wills, a primary element of morality which will be fixed and organised by education and evolution : it constitutes a moral subject.

It follows that the basis of education is to develop the will, and *ipso facto* to form a subject capable of morality. We are too much led to judge children's actions objectively, to measure them by our rules, by our precepts, and our own ideals. The child's ideal cannot be and ought not to be so developed ; we must therefore pay special attention to the force of will displayed by the child, to its self-control, to its power of internal resistance. This or that mark of will, which thwarts us, puts us out, or wounds us, may be in reality the mark of internal and subjective progress. Energy must be stored up before it can be discharged in the proper direction. The genesis of morality is pre-eminently the genesis of the will ; its education ought to be the reinforcement of the will ; the will develops its own activity as it apprehends its own powers.

III. *Power Begetting Duty.*

Let us now proceed from the moral subject to the object. In my opinion, it is the subject itself which after a fashion creates its object for itself, in the sense that the consciousness of a higher power produces of itself the consciousness of a duty. To prove this, let us look at the question, as I have done in my *Esquisse d'une Morale*, from the triple point of view of the will, the intellect, and the sensibility.

1st. *Duty* is the consciousness of a certain internal *power*, superior in character to all other powers. To be inwardly aware that one is capable of doing something greater is *ipso facto* to have the dawning consciousness that it is one's *duty* to do it. Duty, from the point of view of facts and apart from metaphysical notions, is a superabundance of life requiring exercise and development; it has hitherto been too often interpreted as the sense of a *necessity* or *restraint*. I think I have shown in my *Esquisse d'une Morale* that it is pre-eminently the sense of a *power*. "All force which is accumulating creates pressure against the obstacles in its way; all power, considered by itself, produces a kind of obligation proportional to it: power to act is duty to act. Among inferior beings whose intellectual life is checked and stifled there are few duties; but it is because there are few powers. Civilised man has innumerable duties, because he has a wealth of activity to expend in countless ways."[1] And not merely duty, but even the will is largely reducible to the consciousness of a possible self. If will is power, it is because the will is referable to a belief that we have

[1] Vide *Esquisse d'une Morale.*

the power, and because belief is a beginning of action. The will itself is thus an action at its initiation.

From this point of view, which has nothing of the mystical about it, I have reduced moral obligation to that great law of nature: *Life can only be maintained by development.* It has been objected that the fecundity of our various internal powers may be as amply satisfied in conflict as in harmony with others, in the suppression as well as in the helping upward of other personalities. But in the first place it is forgotten that the others are not so easily suppressed: the will which seeks to impose itself on others necessarily meets with resistance. Even if it triumphs over that resistance, it cannot do so single-handed; it must fall back upon the assistance of allies, and thus constitute a social combination, and, in view of this friendly combination, impose upon itself the very slavery from which it wished to free itself with respect to other men, its natural allies. Every struggle, therefore, always issues in an external limitation, and in the second place in an internal alteration of the will. The violent man stifles all the sympathetic and intellectual side of his being—*i.e.*, all in him that is, from the evolution point of view, most complex and elevated. Brutalising others, he more or less brutalises himself. Violence, which thus seems to be a victorious expansion of the inward power, ends by restricting it; to set before our will the abasement of others as an end, is to set before it an insufficient aim, and to impoverish our own being. In fact, by a final and deeper disorganisation, the will proceeds to completely and spontaneously disequilibrate itself by the use of violence; when, as in the case of despots, it is not accustomed to meet with opposition from without,

every impulse becomes irresistible in it; the most contradictory tendencies then succeed one another; complete ataxia ensues; the despot becomes a child again, he gives himself up to the most contradictory caprices, and his objective omnipotence eventually brings on what is really subjective impotence.

If this be so, internal fecundity and fertility ought to be the first aim of moral education, of what the Germans call *culture*. This is what makes education so superior to instruction. Education creates living forces; instruction directs them.

2nd. Just as the power of activity involves a kind of natural obligation or imperative impulse, so the intellect has in itself a motive power. When we rise to a sufficiently high level, we may find ends of action which no longer operate merely as feelings, but which, in themselves and by themselves, without the direct intervention of the sensibility, are motive principles of activity and life. The will as a whole is at bottom nothing but inward power in operation, action in embryo. The wish to do good, if sufficiently conscious of its own force, need not therefore wait for grace from without: it is its own grace; in the nascent stage it was already efficacious; nature, by willing, creates.

Here again the important theory of idea-forces may be applied. Every power felt within us has a point of application; I can do anything *possible*, and among possibilities those which appear to me most rational and desirable are *ideals*, idea-forces;[1] our ideal is only the projection, the objectifying of our inner power, the form it assumes for the self-conscious intellect.

[1] *Vide* A. Fouillée, *Critique des Systèmes de Morale Contemporaine* (second edition).

Among the most powerful idea-forces we first find that of the *normal human type*, an æsthetic and moral idea, which is no more difficult to acquire than that of the tree or animal for instance, and which, once acquired, tends to actualise itself in us. Further, as we live in a community, we conceive more or less distinctly a *normal social type.* In fact, from the very function of all society—as of every organism—is disengaged the vague idea of what is normal, healthy, and conformable to the general direction of social changes.

Our temperament, through the countless oscillations of evolution, tends however to always accommodate itself more and more to the environment in which we live, to ideas of sociability and morality. The thief, mentioned by Maudsley, who took such pleasure in stealing, even if he were worth millions, is a kind of social monster, and of this he ought to be vaguely conscious when comparing himself with almost any other man. To be completely happy he would have to meet with a community of monsters like himself, and in their turn presenting to him his own image. Although remorse has an entirely empirical origin, the very nature of the mechanism producing it is rational; it tends to favour *normal—i.e., social* and, in a word, *moral* beings.

The anti-social being is as much sundered from the type of moral man as the hunchback from the type of physical man; hence arises the inevitable shame we experience when we feel anything anti-social within us; hence also our desire to stamp out this monstrosity. We see the importance of the idea of *normality* in the idea of *morality.* There is something offensive to thought and sensibility alike in being a

monstrosity, in not feeling oneself in harmony with all other beings, in not being able to contemplate ourselves in them, or re-discover them in ourselves. The idea of absolute responsibility being no longer tenable in the present state of science, remorse reduces to regret—regret at being inferior to one's own ideal, at being abnormal, and more or less monstrous. We cannot feel some inward imperfection without an accompanying sense of shame—shame independent of the sentiment of liberty, but already the germ of remorse. To my own thought as judge, I answer in a certain measure for all the bad in me, even when I myself did not put it there, because my thought judges me. Besides, monstrosity produces the sense of absolute and definite *solitude*, which is most painful to an essentially social being, because solitude is a moral sterility, an incurable impotence.

In these days remorse may sometimes torment the hearts of men in proportion to their very elevation and the scruples of a higher conscience; but this is the exception and not the rule. Exceptions are explained by the fact that moral, like all other progress, tends to disturb the equilibrium between the being and its environment; all premature superiority then becomes a cause of suffering; but this provisional disturbance of the primitive equilibrium will some day issue in a more perfect equilibrium. The beings whose lot it is to serve as transitions in nature suffer in order that the total sufferings of the race may be diminished —they are the scape-goats of the species. They bring us nearer the still distant time—the ideal limit, impossible of complete attainment—when the sentiments of sociability, having become the very basis of every being, would be powerful enough to

proportion the quality and quantity of its internal pleasures to its morality, which again is identical with its sociability. The individual consciousness would then so exactly reproduce the social consciousness that every action capable of deranging the latter would derange the former in the same ratio; every shadow cast outside of us would be projected on us; the individual would feel the life of society as a whole in his own heart. In a word, we think of the *species*, we think of the *conditions* under which life is possible to the *species*, we conceive the existence of a certain *normal type of man* adapted to these conditions, we even conceive of the life of the *whole species* as adapted to the *world*, and in fact the conditions under which that adaptation is maintained. On the other hand, our individual intellect being nothing but the human race—and even the world—become conscious in us, it is the race and the world which tend to act by us. In the mirror of thought every beam radiated by things is transformed into a movement. We know the perfection to which the pendulum has been recently brought, so that each of its tiny and almost imperceptible oscillations are self-registered; at each tick a ray of light passes through it; this ray is transformed into a force and presses a spring; the motion of the pendulum, without losing any force by friction, is then betrayed to the eyes by other movements, is fixed by visible and permanent marks. This is a symbol of what is going on in the living and thinking being, in which the rays sent by the universe of objects pass through the thought to register themselves in acts in which each of the oscillations of individual life leaves behind it a reflex of the universal; life, tracing out in time and space

its own internal history, traces out in time and space the history of the world, thereby indirectly visible.

Once conceived, the type of *possible* normal man is *actualised* more or less in us. From the purely mechanical point of view, we have seen that the *possible* is but an elementary adaptation to an environment which permits us, as the mean resultant of a certain number of modifications, to re-adapt ourselves to other slightly varying environments. From the point of view of the consciousness, the possible is the sense of *analogy in circumstances* which calls for analogous acts; thus the intelligent man conceives his *possible* line of conduct to others *ex analogia* with his own conduct towards himself; he thinks he can assuage another's hunger in the same way as his own, etc. Altruism, in more than one point, is thus conceived by the means of egoism itself. Every consciousness of an analogy which satisfies the intellect opens a new direction for activity, and activity tends to hasten along the track. There is therefore no need to look for a *rule* outside human nature conscious of itself and its type. Consciousness and knowledge necessarily have a directing and regulating function. To understand is to measure. All that is really conscious tends to become *normal.* Moral obligation is the force inherent in the idea approaching most closely to the universal, in the idea of the normal *to us and to all beings.* Since, in fact, the conscious idea derives most of its power from its very generality, the idea-force would be *par excellence* that of the *universal*, if the generality were conceived in a concrete manner as representing a totality of social conditions. This idea we call the good, and in ultimate analysis it is the

highest object of morality. Hence it appears to us obligatory.

Moral obligation has nothing resembling external restraint, and in fact it is not a discharge of mechanical force, it is not a violent impulse in this or that direction. When I say:—"I am *morally* compelled to this or that act," I mean something quite different from:—"I cannot help doing it." It would seem then that the sentiment of obligation escapes from the domain of mental dynamics; it is, however, as we have just seen, the mental state into which enter into play manifold springs of every kind, in which the internal dynamics of idea-forces are most intelligent and complex, although to the spectator from without the voluntary act is precisely the most contingent. And thus we come to understand this phenomenon, so often a subject of wonder to psychologists, that the ideas which appear to us the most obligatory are precisely those least urgently imposed upon us by the brute force of physical necessities.[1]

It follows from the preceding considerations that education ought to make it its main duty to establish a classification of ideas, a hierarchy giving the first place to the most typical and universal ideas, incessantly placing before the child's eyes as a pattern

[1] It will be observed that in this theory the intellect and activity no longer appear to be separated by an abyss. In my *Esquisse d'une Morale* I think I have shown that there is no necessity to invoke the intervention of an extraneous pleasure, no need of a middle term or bridge to pass from one to the other of the two things—thought, action. They are at bottom identical. And what is called moral obligation or constraint is, in the sphere of the intellect, the sense of this radical identity; obligation is an internal expansion, a need for completing our ideas by making them pass into action. Morality is the *unity* of the being.

the ideal of the species and of normal man. We know we must proportion the ideal to the child's age: the individual, alike from the moral and physical point of view, passes anew through the different stages of evolution; it cannot therefore attain in a moment a degree of ripe civilisation. There is even a danger, as Spencer says, in excess of moral precocity as in excess of intellectual precocity. To demand too much from a child is to expose oneself to the danger of exhausting prematurely will and intellect alike. "You cannot put an old head on young shoulders?" Parents should be the more inclined to indulgence for the faults of their children, since those faults are usually attributable by heredity to the parents themselves, if they are not attributable to their mismanagement as educators.

3rd. So far we have considered the formation of moral obligation as the result of individual evolution. I think that in the genesis of moral obligation it is best to first consider, as we have done from an abstract point of view, the evolution of the consciousness in the individual—*i.e.*, in a restricted and more or less complete society, for to repeat what I have said before, in the eyes of modern science the individual himself is a society. We thus avoid the exaggeration into which so many have fallen: the mistake of absorbing the individual consciousness into the social; of the exclusive reduction of moral tendencies to social; of believing that the combination of individuals has succeeded in bringing to light ideas and sentiments which did not already exist in embryo in each taken singly. Selection, according to Darwin the dominant law of social combinations, is in fact only the development and triumph of some

internal capacity generated by individual evolution itself; this capacity is prolonged in the species rather than created by natural or sexual selection. The English are therefore wrong in identifying morality too absolutely with the social instinct; in actual practice no doubt it becomes fused with it, but reality does not exhaust every possibility. Besides, it is not always the fact that morality consists in the pursuit of a directly social purpose; progress seems to multiply among us the search for ends which only very indirectly satisfy our emotional instincts; we devote ourselves to science, or to a hazardous undertaking, or to a work of art, for their own sakes. Wherever there is such a devotion, such an exclusive pursuit of any end, even if illusory, we cannot deny that there is an expression of moral effort, although this effort is exercised independently of the social instincts of the race. Moral fecundity in a measure overlaps human society. In fact, we must not believe that the instinctive and hereditary sentiment fixed by natural selection creates and explains in every detail the action of the individual. On the contrary, it often happens that accumulated activity has created a corresponding sentiment. The social sentiment springs from the very nature of our organs, which have been fashioned by our antecedent actions; power has preceded the sense of duty. We have not hands because we are charitable; we are charitable and we hold out our hands to others because we have hands. But if it be true that the individual might have spontaneously formed for himself an embryonic moral obligation, it is equally true that moral obligation assumes an entirely new aspect when we consider it from the social point of view, when we take into

account the new views of existing physiology on the subject of the constant action and reaction of nervous systems on each other. We then understand much better, not only the direction in which the moral sense is urging us now, but also its internal character, the secret of its energy; finally, and especially, we understand the increasing importance it will assume in us as education comes into play.

From this new point of view, moral obligation appears to be a direct inter-action, conscious or unconscious, of nervous systems on each other, and in general of life on life; it is reducible to a deep sense of solidarity. To feel ourselves morally obliged is, in fact, in most cases, to feel ourselves obliged to others, bound to others, having solidarity with others. If with Darwin we exclusively attribute the origin of moral obligation to certain determinate social tendencies, we may recognise in man, as in every organism, a *social basis*, identical on the whole with the *moral basis*. In scientific analysis the individual is resolved into more than one—*i.e.*, into a society; the physiological individual is a society of cellules, the psychological individual is a collective consciousness. Moral obligation is therefore resolved into a solidarity—either the intra-organic solidarity of several cellules, or the extra-organic solidarity of social individuals. Morality being a harmony and an internal determinism, is in this sense, within the limits of the individual, a social phenomenon; for every determination springing from the depths of our being is the result of the reciprocal action of the cellules and elementary consciousnesses which constitute *us*. These principles granted, we

can understand how a certain duty is created by the increasing fusion of the sensibilities, and by the more and more social character of the higher pleasures which every day take a larger share in human life,—æsthetic pleasures, the pleasures of reasoning, understanding, learning, seeking, etc. These pleasures make fewer demands on external conditions, and are much more accessible to all than pleasures properly egoistic. They are simultaneously deeper, more intimate, and more inexpensive (without being always completely so). They tend much less to make a line of demarcation between individuals than do inferior pleasures.[1] The conscious solidarity of the sensibilities tends therefore to establish a moral solidarity between men. There are in the social being normal sufferings and joys multiplied between individuals by the phenomena of induction. These are, so to speak, symphonic pleasures—choirs chanting within us.

Whatever development the fusion of sensibilities may thus acquire by sympathy and altruism, we may, it is true, always maintain that there is no real disinterestedness in it, but a transformation of the primitive instinct of life, which is "the bias in one's own favour." And to prove an action is disinterested, it is not enough to show it has no interested motive. Rochefoucauld has, by subtle but necessarily inexact analyses, traced every action to interested *motives;* he has tried to explain the most spontaneous acts of sensibility by *intellectual* calculation. It was a serious mistake—due to the imperfection of physiological and

[1] This point I have developed in my *Morale d'Épicure et ses Rapports avec les Doctrines Contemporaines*, and later in my *Esquisse d'une Morale.*

natural science in that age. Ideas[1] are not the sole motives in an action; feelings must be taken into account. Now everything is changed if the new datum of feeling is introduced among causes producing acts. The noblest devotion, in which no interested motive can be found, may be referred to the promptings of emotion; and sympathy is straightway added to what Pascal calls "*pente vers soi*"—bias in one's own favour; according to the utilitarians, altruism completes but does not radically transform egoism. Man is an intelligent and social animal; this is the most accurate definition, into which, say the utilitarians, it is useless to introduce the element of disinterested liberty: nature is enough, the fatality of instinct replaces free impulse. If sometimes we think ourselves freely disinterested, it is because we only consider ourselves from an external point of view; where we no longer see the conscious and refined calculation of Rochefoucauld, we think we have discovered something extraordinary and supra-sensible: liberty and disinterestedness! But instead of looking for an explanation above the intellect in an incomprehensible free will, look beneath the intellect and you will find it in sentiment. Letting ourselves be carried away by sympathy, we calculate no longer, but it is nature which has calculated for us: nature urges us gently towards others, so gently that we think we are walking alone, like a child who is held by its mother when taking its first steps, and who, not seeing the hand that holds it, but feeling the force supporting it, already imagines that its legs move nimbly of themselves.

This is how the partisans of fundamental egoism

[1] *Vide* note, p. 62.

reason. Into the discussion of this problem the author of *Systèmes de Morale Contemporaine* has introduced a new element of supreme importance—the influence of the idea. Even though our nature ignored true and free affection, should we ignore what might be called the *appearance* of affection? By no means. Then again let us assume for the sake of argument the hypothesis of radical egoism. There exists in all beings a certain number of tendencies which are neither more nor less inevitable than others, but which have reference to other persons, and are called altruistic. These tendencies will naturally exist in each of us, and will tend to bring us closer together. We shall then try to outrun them, urged from within by an emotional prompting, but from without having the appearance of being moved by a moral idea. Well, is not that a great deal? If I see one of my companions stretch out his hand, and, to use Kant's expression, make as if he loved me, I shall clearly become the sport of an inevitable and beneficent illusion: I shall see him without any apparent motive of interest drawn towards me by all the outward signs of affection: I shall then conceive his acts as free from every egoistic object, and at the same time as having myself for their end: this is the *idea* of love. I shall believe I am loved, and even though the being who appears to love me should act at bottom from inevitable instinct, I shall imagine his action is free. How could it be otherwise? I do not, by hypothesis, know enough physiology to distinguish in what seems to be the entirely spontaneous and entirely pure affection another being appears to have for me, what part is played by the egoistic instincts inherent in his

organisation. When I cannot attribute to one of my companions any interested motives, it will not occur to me to seek in his organisation the hidden cause of his action. Whether then I am deceived, or whether, on the other hand, I see further than men of science themselves, I shall believe I feel a heart and a volition where there may only be wheels and a machine; I shall acquire the pure idea of love. Now, once acquired, what will this idea not produce? When I see a fellow-man making friendly advances to me, I revolt at the thought of remaining cold and insensible to that affection, of remaining amiable externally alone, amiable in what is not *me*, by a kind of deceit. I wish to be worthy of being loved; I wish to deserve the affection shown me; I wish the appearance of some one loving me to become a reality, and, as Socrates said, I wish to be what I seem. But how can I become amiable if not by loving? How can I respond to affection if not by affection? My personality therefore unfolds itself, and tends to complete itself in a love more and more approaching real love.

Thus the only two faculties philosophers have left us—the intellect and sensibility—quite naturally give rise to the idea of will guided by love. We have reached this idea by what may seem a circuitous route, but it is none the less natural for that; for, in a word, how does the child learn to love? Is it not because it sees it is loved? Can we say that in the child love is natural and innate, and not a work of education? The first movements of the child express nothing but the *ego*, its sensations and passions, cries of joy or pain; and later, with the sentiment of personality, cries of anger. But seeing around it

the tenderest love manifested by the most palpable signs, feeling or believing itself to be loved, the child at length wishes in some measure to deserve this love, therefore it attempts to stammer a response to so many reiterated appeals. Through seeing others smile, the child smiles. How long it took to produce this first manifestation of love! We think it natural, spontaneous; who knows all the accumulated efforts, the perseverance, the will, that the child had to exert to bring into the light of day that wonderful smile, already the faint sketch of disinterestedness? Follow with the eye the moral life of the child reflected on its face: you will see the preliminary sketch filled in with countless shades and colours; but how slowly! No painting of Raphael ever cost so much effort. The child is naturally egoistic; all for it, as little as possible for others. Only by receiving first does it end in giving; love, which seems its nature, is on the contrary an impulse above its nature, an enlargement of its personality. In this sense we may say with the greatest truth, it seems to me, that love is in the first place gratitude; it is the sentiment of response to benefits received, and as it were an effort to deserve the boon conferred. It seems as if the first act of gratitude were an act of faith: I believe in the benefit; I believe in the good intention of the benefactor. From signs of love in its parents the child infers the reality of their love for it; man, in the presence of his fellows, draws the same deduction. Just as the idea of liberty determines us to act as if we were free, the idea of love invites us to act as if others loved us, and as if we really loved them. This idea, by which egoism is transformed into altruism, is like

the force which, in a locomotive, reverses the steam and makes the engine run in an opposite direction.

Education consists in favouring this expansion towards others, instead of favouring forces of attraction to oneself. It teaches how to find pleasure in the pleasure of others, and so how to make a choice among pleasures; to prefer the highest and most impersonal enjoyments, and *ipso facto* those which involve the longest duration, and are, as it were, unending.

The preceding analyses issue in the conclusion that to be moral is, in the first place, to feel the force of our will, and the multiplicity of the powers inherent in our being; in the second place, to realise the superiority of those possibilities having for their object what is universal over those with merely private objects. The revelation of duty is at the same time the revelation of a power which is inherent in us, and of a possibility extending to the largest group of beings who come within the sphere of our activity. Something infinite may be seen in and through the limits imposed upon us by individual obligation; and this infinity has nothing mystical about it. In duty we feel and experience, as Spinoza says, that our personality is always capable of further development, that we are infinite to ourselves, that our surest object of activity is what is universal. The sense of obligation is not attached to an isolated tendency in proportion to its intensity alone, but in proportion to its generality, to its expansive force and associative power. That is why the obligatory character of the tendencies essential to human nature increase in proportion as they are separated from the simple necessity inherent in the coarser functions of the body.

To sum up, we have marked out the three following stages in the development of the moral instinct:—

1. Mechanical impulsion, only momentarily appearing in the consciousness to be there translated into blind propensities and unreasoned sentiments.

2. An impulse, checked but not destroyed, tending *ipso facto* to invade the consciousness, and to be there incessantly translated into a sentiment, and to produce a permanent obsession.

3. An idea-force. The moral sense grouping around it an increasing number of sentiments and ideas, becomes not only a centre of emotion, but an object of self-conscious reflection. Then obligation springs into being; it is a kind of reasoned obsession—an obsession strengthened and not dissolved by reflection. To gain consciousness of moral duties is to gain consciousness of inner and higher *powers* which are developing in us and urging us to action; of *ideas* tending by their own force to realise themselves; of *sentiments* which, by their very evolution, tend to socialise themselves, to impregnate themselves with all the sensibility present in humanity and in the universe.

In a word, moral obligation is twofold consciousness: 1st, of the power and of the fecundity of higher idea-forces, unified by their common object—the universal; 2nd, of the resistance of contrary and egoistic propensities. The tendency of life to the maximum of intensity and expansion is the elementary volition; the phenomena of irresistible impulse, of simple and permanent obsession, and, finally, of moral obligation, are the result of the conflicts or the harmony of that elementary volition with all the other propensities of the human mind.

The reconciliation of these conflicts is nothing but the search for and recognition of the normal propensity which includes in us most auxiliary propensities, which has been associated with the greatest number of our other permanent tendencies. In other words, it is the search for that propensity which is at once the most *complex* and the most *persistent.* Now these are the characteristics of the tendency to the universal. Moral action is therefore like the sound awakening in us most harmonics, vibrations at once the richest and the most permanent.

The consciousness of the impulsive force which belongs to the higher motives only reaches its full strength, we must clearly understand, when once it has been disobeyed. The moral instincts, in fact, reappear after the action all the stronger for the very resistance they have momentarily experienced. Thus is produced the sentiment of remorse. This sentiment does not imply the notion of absolute liberty; it presupposes the consciousness of the determinism which links our present to our past. If we had a keen enough sense of absolute liberty, if we thought we could completely renew ourselves by a single act of will, if we had not a vague fear that, in our being, each of our resolutions is implicit in the rest, and that the one issues from the other, the word "peccavi" would not have so profoundly sorrowful a character, for it would rather imply a past imperfection, but it would not imply an actual or future imperfection. Responsibility is not merely causality, but also solidarity; I must feel myself linked with something bad or repugnant, as if a blamable act were a part of me, before I experience that regret and shame which are the beginning of

remorse. An act accomplished by me with the best intentions in the world, but of which the issue has been unfortunate in spite of every possible prevision, will still leave me a prey to a kind of internal torture, a regret for intellectual imperfection, not without analogy to regret for moral imperfection. A father is as pleased at his son's good action as if he had done it himself, even when he has had nothing to do with the boy's education; if, on the other hand, the lad behaves badly, the father will suffer and experience a remorse often keener than that of the culprit himself. Further, an act committed by a stranger, which we have witnessed without being able to prevent it, produces in us, if we have a well-developed and very delicate morality, an internal laceration, a sorrow analogous to remorse, and we feel as if the consequences of the act must partly fall upon ourselves. After all, there is some part of us in other men, and it is not without good reason that we feel ourselves degraded in our own eyes by whatever degrades humanity. In a word, responsibility seems far from being, as Kant thought, outside time and space, in the sphere of pure liberty and the pure noumenon; on the contrary, it seems to be in both time and space, linked with the thousand associations of ideas which constitute the phenomenal ego. It is for the most part explained by the solidarity, the contiguity and continuity of beings. Accordingly, responsibility may pass from one being to another. We may have, so to speak, remorse for others; we may also rejoice in others; it is a kind of sympathy or antipathy sometimes exercised by ourselves to ourselves, sometimes by ourselves to others. If the sense of responsibility extends

especially from the past of the individual to his present and future, it is perhaps because we all feel, sometimes without being able to account for it to ourselves, the deep determinism which connects every moment of our individual life; we feel that all within us is linked together: the past is, as it were, chained to us. Moral wounds, therefore, like certain cicatrices, are ever painful, because we are always changing, without, however, being able to renew or forget ourselves, and because an ever-increasing contrast is drawn between what we are and what we conceive ourselves to be.

IV. *Possible Dissolution of Morality.*

After the genesis of morality, it is appropriate to say a few words on its possible dissolution in the individual and in society, and also on its more or less diseased stages and arrested development. It is important to the educator to be able to recognise them, and to know how to determine the share taken here again by heredity, and the influence of the internal or external environment respectively. As in the case of physical life, moral life is susceptible of disease or dissolution, and in this dissolution or arrested development of morality there are different degrees.

1st. *Morality purely negative*, produced by the mutual nullification of tendencies, altruistic or egoistic, æsthetic or brutal, etc. This neutral morality is not due to a really solid organisation of the moral instincts formulated into a rational system of idea-forces, and further, it is necessarily unstable; it is

the transitory equilibrium of opposing tendencies, the morality of many people, whose impulses are not sufficiently strong in one direction or the other to be able to carry them very far from the normal line.

2nd. Moral *ἀτονία*, or the reign of caprices. This is an exaggeration of the former state, with the difference that the oscillations towards what is bad, or sometimes towards what is good, have more amplitude, because the propensities are stronger. This state is peculiar to the impulsive temperament when its orientation is not referred to a centre of idea-forces of adequate attractive power. The impulsive temperament produces a large number of criminals, who are not, however, necessarily the most dangerous; it has even, under some circumstances, produced heroes. Among certain individuals moral tendencies exist, but they are not always sufficiently present, and may at any moment give place to opposite tendencies. In these individuals the consciousness is unilateral, powerless to present to itself two opposite directions of action, powerless to excite in itself those antagonistic states whose presence is a characteristic of the more highly developed consciousness. In this case the lively sense of obligation disappears at the moment of the act, but is not long before it reappears when once the act is accomplished, and the tendency abolished which produced the act. Thus in the same individual we may see states of absolute immorality succeed each other, to be followed a few hours later by very keen, very genuine, but always fruitless remorse. This is because such an individual, gifted with an impulsive temperament, is, at the moment of the evil impulse, quite incapable of eliciting the contrary impulse with sufficient strength to

partially paralyse the anterior impulse. The antagonistic states of consciousness are realised in him successively, instead of simultaneously; he is not a monster, but a man impotent from the moral point of view; his will has undergone an alteration analogous to that produced in patients afflicted with "aboulia." The latter are powerless to pass from the conception of an act to its consummation; they wish to go out for a walk, but they are unable to do so; desire has not in them the determining force necessary to action. In individuals afflicted in some degree with moral aboulia, it is not the power of performing the act that is wanting, but the power of representing to themselves simultaneously and completely the ends or the feelings which determine action. In the internal balance a certain number of weights are always forgotten, and they do not reappear until the scale is already turned.

3rd. *Moral madness — i.e.*, the intervention of abnormal impulses (as, for example, those impelling children to destroy for the sake of destroying, to behave badly for the sake of doing so, to immodest acts, to eat their own excrement, etc.). These more or less irresistible abnormal impulses may coexist with the normal impulses, and with remorse for the act committed. A dipsomaniac is not a drunkard, nor is a kleptomaniac a thief; a pyromaniac is not an incendiary, nor is a man with homicidal mania a genuine assassin; the former protest all the time against the actions, and sometimes feel horror at them; their moral sense is not altered, it is merely practically impotent.

4th. *Moral idiocy*—that is to say, the total or partial absence of impulses, altruistic, intellectual, æsthetic,

etc. Moral idiocy is never met with in the complete state; we constantly find it, however, in the partial state: how many children and men, on certain points of conduct, remain invincibly dull! In others, altruism is entirely wanting, and that at the outset, without their having to undergo a preliminary training, as in the case of professional criminals. Moral tendencies may be almost completely wanting in an individual; for instance, Maudsley mentions a case of a minister poisoning his wife with the utmost nonchalance, and without experiencing the least inward repugnance to the act. In these extreme cases both the actual sentiment of obligation during the act and moral remorse after it are wanting.

5th. *Moral depravity*, produced by normal impulses of abnormal intensity (anger, vengeance, etc.), which become grouped, co-ordinated, and reasoned, and which counterbalance — and sometimes substitute themselves for—the moral sense. Then is produced not a primary but a secondary moral idiocy; it marks the last stage of the moral dissolution, because it corresponds to an evolution of sentiment-forces and idea-forces in a direction contrary to the normal; it is really an organisation of immorality. Dostoieffsky says, speaking of criminals he observed in Siberia:— "Not the least sign of shame or repentance. . . . For several years I never noticed the least sign of repentance, nor the least uneasiness for a crime committed. . . . Certainly vanity, bad example, boasting, and false shame were there in plenty. . . . It seems to me that in so many years I ought to have been able to seize some indication, however fugitive, of remorse or moral suffering. I noticed positively nothing of the kind." M. Garofalo adds: — "Their moral

insensibility is such, that at the assizes assassins who have confessed do not recoil before the most harrowing descriptions of their crimes ; they exhibit a complete indifference to the shame with which their families are overwhelmed, and to the grief of their parents."[1]

Thus the moral instinct, instead of being a fundamentally immutable faculty as represented to us by certain schools, is a complex product of evolution, *ipso facto* subject to dissolution, to decadence, and to perfectibility alike. The educator should have before his mind this character of the moral sense, at once so elevated and up to a certain point so unstable. Not only individuals, but whole races are moralised or demoralised. And as morality is a condition of their progress—nay, of existence—they rise or fall in life, they are victorious or vanquished in the struggle for existence, according as they have enriched or impoverished their treasure of hereditary morality.

Hence the morality of the race, together with its health and vigour, must be the principal object of education. All else is only secondary. Intellectual qualities, for example, and especially knowledge, learning, and information, are much less important to a race than its moral and physical vigour. Thus the educator never ought to invert the hierarchy of qualities necessary to the race ; he must never forget that the strength and vitality of creeds is due to their moral effect upon nations ; and that the more their influence declines, the more necessary it becomes to replace it by all moral influences.

[1] *Revue Philosophique*, March 1887, p. 243.—On pp. 126-132 of Maudsley's *Mind and Body* will be found much interesting matter on this point.—Also see Ellis, *The Criminal*, pp. 124-133. (Tr.)

V. *The Rôle of Education and Heredity in the Moral Sense.*

The moral sense is, as I have pointed out, a higher product of education, in the widest significance of this word, which embraces the whole action of the physical and social environment. I do not wish to imply that morality is artificial; but merely that it is a second nature added to a primitively animal nature by the action and reaction of our faculties and environment. Man, as we have seen, has made his own moral law by the higher powers he has little by little acquired in the process of evolution, by an education partly spontaneous, partly enforced, sometimes individual, sometimes collective. It is obvious that heredity also has its *rôle* in the genesis of the moral instinct. Let us then proceed to determine the respective spheres of these two influences.

According to Wundt, it is by no means certain that even the intuition of space is innate; in all cases the simple perceptions of the senses are not so, in spite of their constant repetition in past ages. A man born blind has not a connate perception of light, nor has a man born deaf a connate perception of sound; we cannot therefore speak of "innate moral intuitions," which would presuppose a multitude of very complex representations, relative to the agent himself and his fellows, and referring to his relation with the external world.[1] Doubtless; but we do not maintain or admit the existence of perfectly preformed moral intuitions, and Spencer has certainly gone too

[1] *Vide* Wundt's *Ethik*, p. 345.

far in that direction. A tendency is not an intuition, and it is certain that there are hereditary tendencies, some moral and others immoral. We all know this, and Darwin has shown that among certain wild animals fear has become hereditary. For instance, when the Falkland Islands were first visited by man, the large dog-wolf (*canis antarcticus*) came up fearlessly to Byron's sailors. Even more recently, a man with a piece of meat in one hand and a knife in the other could easily cut the throats of these creatures in the night. In an island on the Sea of Aral, the antelopes, generally so vigilant and timid, instead of taking to flight, looked at man as a kind of curiosity. Originally, on the coasts of the island of Maurice the sea-cow had no fear of man ;[1] and the same was the case with the phoca and walrus in several parts of the globe. The birds of certain islands have acquired but slowly (and hereditarily) a salutary terror at the sight of man. In the Galapagos Archipelago, Darwin tells us he could push a hawk off a branch with the barrel of his gun, and he saw birds settle on a pitcher of water which he held out for them to drink from. There is in this, if not an intuition, at least the association of reflex movements, and almost of reflex sentiments with a representation—that of man. Why then should not the representation of man, by hereditary tendency, excite in man himself a peculiar pleasure, and an inclination no longer of flight, but to approach, speak, be helped, to put others in his place? When a child falls under the wheels of a carriage, we precipitate ourselves to

[1] The *Lamantin*, or sea-cow (*Rhytina Stellerí*). *Vide* Weismann's *Essays on Heredity*, edited by E. B. Poulton, M.A. (Clarendon Press, 1889), note on p. 92, where serious doubts are cast upon the accuracy of these statements. (Tr.)

its rescue by an almost instinctive movement, just as we should start aside from a precipice. The image of others is thus substituted for the image of ourselves. In the scales of the inner balance, *I*, *thou*, are constantly interchanged. This delicate mechanism is partly produced by heredity. Man is thus domesticated, made gentler, and more civilised ; now he is partially savage, partially civilised or civilisable. The result of education through the ages is thus fixed in heredity itself, and this is one of the proofs of the power possessed by education, if not always for the present, at least for the future.

We are also familiar with cases of reversion and atavism. The warlike and nomadic instincts characterising savage life persist in certain civilised men ; it is difficult for certain natures to adapt themselves to the complex environment resulting from the host of opinions and habits we call civilisation. We may see from this, says M. Ribot, that one fundamental element in primitive savage life is preserved and reproduced by heredity. Thus the taste for war is one of the most generally prevalent sentiments among savages ; with them, to live is to fight. "This instinct, common to all primitive races, has not been without its use in the progress of humanity, if, as we may believe, it has assured the triumph of the stronger and more intellectual races over those less generously endowed. But these warlike instincts, preserved and accumulated by heredity, have become the cause of destruction, carnage, and ruin. After having served to create social life, they are no longer of any use but to destroy it ; after having made certain the triumph of civilisation, they then only work for its destruction. Even when these instincts

are not bringing two nations to blows, they are manifested in ordinary life, in certain individuals, by a quarrelsome and combative humour, which often leads to vengeance, the duel, and murder."[1] The same is the case with the spirit of adventure: savage races possess it in so marked a degree that they plunge into the unknown with the carelessness of children. This spirit of enterprise, and want of foresight, although at first useful enough in opening up new worlds to commerce, travels, science, and art, has become in certain individuals a source of futile or ruinous excitement, the only excitement permitted by their environment, "such as the passion for play, stock-jobbing, and intrigue, or the egoistic and turbulent ambition of conquerors, sacrificing whole nations to their caprices."[2] We sometimes see reappear in remote descendants the old instincts of the race, lulled or latent for a great many generations, and manifested as an inexplicable reversion to the ancestral moral type. The higher classes of society, who are more in evidence, offer us striking examples; as if the leisure and independence secured to them by wealth, depriving them of the influence of the local environment, and of the present conditions of life of their race, set at liberty "psychic forces" restrained in their contemporaries. "Thus," says Madame Royer, "we sometimes see the instinct of theft not only in the children of our cultured races, where education as a rule corrects it at an early period, but we sometimes see it persist in adults, and by its irresistible power draw into crimes, barely excusable from their obviously inevitable character, the women of our old and noble houses, who are thus the

[1] Ribot, *L'Hérédité.* [2] *Ibid.*

melancholy heiresses of the old instincts of our barbarian conquerors."[1]

We know how air, climate, the configuration of the soil, mode of life, the nature of food and drink, fashion the human organism by their incessant action; how these latent and dull sensations which do not reach so far as the consciousness, but which penetrate incessantly into our being, form

[1] What has always distinguished the savages of the Philippines from the other Polynesian races is their indomitable passion for liberty. In a massacre on the island of Luzon, made by native soldiers under the order of a Spanish officer, a little black, of about three years old, was seized by the troops and brought to Manilla. An American obtained permission from the government to adopt him, and he was baptised under the name of Pedrito. As soon as he was old enough, efforts were made to give him all the instruction that could be obtained in that remote land. The old residents on the island, knowing the character of the Negritos, laughed in their sleeves at the attempts made to civilise the lad, and predicted that sooner or later the youth would return to his native mountains. Thereupon his adopted father announced that he would take Pedrito to Europe. He took him to Paris and London, and only returned after two years of travel. On his return, Pedrito spoke Spanish, French, and English, with all the facility with which the black races are gifted; he wore thin patent leather boots, and "everybody in Manilla still remembers the grave manner, worthy of any gentleman, with which he received the first advances of those who had not been introduced to him." Two years had scarcely elapsed after his return from Europe, when he disappeared from the house of his patron. Those who had laughed now had their hour of triumph. It would probably have never been known what had become of the adopted child of the philanthropic Yankee, if a European had not come across him in a remarkable way. A Prussian naturalist, a relative of the celebrated Humboldt, resolved to make the ascent of Mount Marivelès, a mountain not far from Manilla. He had almost reached the summit of the peak when he suddenly saw before him a swarm of little blacks. The Prussian prepared to sketch a few faces, when one of the savages came forward and smiled, and asked him in English if he knew an American in Manilla of the name of Graham. It was our Pedrito. He told his whole story, and when he had ended, the naturalist in vain endeavoured to persuade him to return with him to Manilla.—Vide *Revue des Deux-Mondes*, June 15th, 1869.

in the long run "that *habitual* mode of the constitution we call the temperament." The influence of education is, according to M. Ribot, analogous to this; it consists in a moral environment, and it issues in the creation of a *habit.* M. Ribot remarks that even this moral environment is as complex, heterogeneous, and variable as any physical environment. "For education," he says, "in its accurate and complete sense, does not merely consist in the lessons of our parents and masters; manners, religious beliefs, letters, conversations heard or overheard, are so many mute influences acting on the mind just as latent perceptions act on the body, and contributing to our education—*i.e.*, contributing to make us contract habits." In spite of this, M. Ribot tries to restrict the influence of education, and to vindicate anew against it the claims of innate tendencies:—"For," says he, "the cause of the innate tendency is in ourselves." He adds: "Whether certain psychic qualities spring from spontaneous variation or from hereditary transmission, is a matter for our present purpose of small importance; what we must be shown is, that they are pre-existent to education, which sometimes transforms but never creates them."

Why, we may ask M. Ribot, might not education create certain psychic qualities? The words *to create* can no more be taken absolutely in heredity than in education. Heredity does not, properly speaking, create: it fixes and accumulates certain qualities, which often have themselves been acquired by that education, in the broad sense of the word, which M. Ribot has just before so well defined. If we are to believe M. Ribot, the opponents of heredity have made a great mistake in explaining by an external

cause, by education, what is due to an internal cause, the character: "their polemic has often in fact consisted in laying down this, in their opinion, decisive dilemma: either children ought not to resemble their parents, and then where is the law of heredity? or children resemble their parents morally, and then why seek any other cause but education? Is it not quite natural that a painter or a musician should teach his art to his son? that a thief should train his child to theft? that a child born in the midst of debauchery should be tainted by its environment?"

In my opinion, if the dilemma of which M. Ribot speaks does not show the influence of education, it shows at least that the influence of heredity, in countless cases, is not itself demonstrable, and that in the majority of cases it is not possible to draw the line of demarcation between the two influences.

Gall has clearly shown that those faculties existing in all individuals of the same race, exist in different individuals in very different degrees, and that this variety of tendencies, aptitudes, and characters, is a fact common to all classes of beings, independent of education; but, in my opinion, the existence of natural varieties by no means precludes that of acquired varieties. Among domestic animals, spaniels or hounds are far from all displaying the same delicacy of scent, the same cunning in the chase, the same certainty in pointing the game; shepherds' dogs are far from all being endowed with the same instinct. Race-horses of the same breed differ in speed; draught-horses of the same strain differ in strength. So with wild animals. Singing birds have naturally the song of their species; but the skill, timbre,

compass, and charm of voice, vary from one bird to another. Certainly; but it has also been shown that singing-birds may learn to sing better, just as race-horses may be trained to run faster.

In man, M. Ribot thinks that a few well-chosen examples are enough to show the *rôle* played by innate tendencies (often nothing but heredity), and to cut short all incomplete explanations drawn from the influence of education. We remember how D'Alembert, a foundling brought up by the widow of a poor glazier, penniless, without advice, pursued by the mockery of his adopted mother, his comrades, and the master who did not understand him, none the less went on his way hopefully, and became, at the age of twenty-four, a member of the Académie des Sciences, which was only the beginning of his glory. "Imagine him brought up by his mother, Mademoiselle de Tencin, and at an early age admitted to the salon where met together so many men of parts; imagine him initiated by them into scientific and philosophical problems, and refined by their conversation; and the opponents of heredity would infallibly see in his genius the result of his education." That genius, we answer, cannot be the *product* of education; but education does not profess to give genius; it develops it, gives it free play, and may produce talent. If we are to believe M. Ribot, the biography of most celebrated men shows that the influence of education has been sometimes *nil*, sometimes harmful, and in most cases weak. If we take, he says, great generals —*i.e.*, those generals whose débuts are the easier verified because of their striking characters—we find Alexander commenced his victorious career at 20; Scipio Africanus (the first) at 24; Charlemagne at

30; Charles XII. at 18; Prince Eugène commanded the Austrian Army at 25; Buonaparte the Army of Italy at 26; etc. In the case of many thinkers, artists, inventors, men of science, the same precocity shows that education is of small moment compared with the innate tendencies. M. Ribot always speaks of men of genius. Even with men of genius, with Alexander, Charles XII., and Buonaparte — the accounts of the glorious deeds of others have almost invariably been the cause of the manifestation of genius. In conclusion, M. Ribot thinks he is reducing the influence of education to its just limits by saying— "*It is never absolute, and is efficacious only in average natures.*" Assume that the different degrees of the human intellect are drawn up so as to form a linear series from idiocy at one end to genius at the other. According to M. Ribot, the influence of education is a minimum at each end of the series. It has almost no influence at all on the idiot; unheard-of efforts, prodigies of patience and skill, only issue in insignificant and ephemeral results. But as we ascend towards the middle of the series, this influence increases, and attains its maximum in those average natures, which being neither good nor bad, are pretty well what chance makes them. Then if we glance at the higher forms of the intellect, we see the influence of education again decreasing, and "*tending to its minimum*" as it approaches the loftiest genius. We willingly admit this ingenious law of the variations of influence in the two first applications, without feeling bound to conclude that education "is *efficacious* only in average natures." In fact we readily see why an idiot is but little educable, but we do not see why the great natural qualities of genius should make it inaccessible

to education. The more naturally intelligent one is, the more one is capable of learning, and of having one's intelligence developed by education. The more naturally generous one is, the more one is capable of becoming heroic by education, etc. I think, therefore, that genius simultaneously realises the maximum of abundantly fruitful *heredity* and *educability*.

It has been often noticed that it is not rare to find sceptical children in pious families, or pious children in sceptical families, children led astray in the midst of good example, or ambitious, though born in a peaceful and modest family. But because parents are pious, it by no means follows that they are good educators in religion; a sceptic may produce belief by reaction in his children, and *vice versâ*. We can scarcely understand an hereditary scepticism, nor even an hereditary piety.

Finally, concludes M. Ribot, to rule over average natures is still an important function; for, "if the higher natures *act*, the average natures *re-act*;" and history tells us that "the progress of humanity is as much the result of the re-actions which check as of the actions which precipitate its motion." We may accept this conclusion, with, however, the addition that education may and ought to reign over higher as well as average natures. Speed already acquired is only one condition more for the acquisition of still greater speed.

It is especially in the moral order (on which M. Ribot barely touches) that education reigns supreme. It is difficult to pretend that we are born virtuous by the law of heredity. We certainly may have a natural goodness, gentleness, and generosity, but that is not yet morality properly so called. Morality is really

the daughter of the intellect, for the intellect frames an idea of the highest good, sets before itself an ideal end, and, having the consciousness of an initial *power* of realisation arising out of the very existence of the idea, erects into a *law* and *duty* the complete realisation of the *ideal*. In the development of this ascending tendency, this perpetual *sursum*, education has enormous power; in my opinion it is, according to circumstances, the great moralising or demoralising influence.

The tendency of life towards the maximum of inward intensity and of outward expansion, is for us inherent in life itself. It is its initial spring. This tendency first becomes moral when the striving after the greatest inward intensity takes place in the direction of the highest psychic activities; right direction is the essential point. Now it is obvious that this right direction may be produced by education, just as it may also be naturally facilitated or partly predetermined by heredity, which makes certain tendencies and sentiments dominate others. The moral hierarchy of the sentiments is then easier to establish. In the second place, the tendency towards the maximum vitality becomes moral when the tendency to outward expansion is manifested by concord with others, by sympathy and affection, instead of being manifested by brutality and violence. Here again education and heredity play an important part. Education ends by putting others on the same footing as ourselves in our thoughts, in our sentiments, and *ipso facto* in our wills. Heredity, on the other hand, transmits the tendencies to gentleness and kindness, as it may also transmit tendencies to violence and brutality.

The element of obligation and duty remains—the form attached by us to the idea of the most intensive and expansive life. I have shown that obligation is a power which, conscious of its superiority, is opposed to what is inferior or incompatible, and is thus of itself translated into duty; I can do more and better than I do, therefore I *ought.* Here is a contrast, a sense of internal division, making us lay down in our thoughts a higher *law* than we realise, or see realised. This tendency to development of the *maximum* power is accumulated in two ways—by education and by heredity. The more we do, the more we want to do; the better we do, the better we wish to do; there is an accelerated speed, an incessant craving to excel one's self; as in the artist who is always wishing to produce a masterpiece better than all his preceding work. As for the form of the law,—imperative, or inward command, which is really a kind of internal constraint,—it has the characteristics of an instinct which belong to everything that is hereditarily transmissible. We are born more and more controlled by this internal law; the civilised child, instead of being like the savage, lawless and unrestrained, is quite ready to bend to the yoke of this inward law. Education finds in it a kind of pre-established respect for law, of natural loyalty, but it strengthens the inner law by the enormous force of acquired habits. Modern education should, above all, preserve and develop its own higher product—morality. In the case of children we must store up moral power by good habits. Duty being but the consciousness of higher power, we must before anything else give that power, or at least the belief in it, which tends spontaneously to produce it.

Herbart very clearly saw the tendency of the human mind to "*maximation*," which is, according to Kant, the most general characteristic of "practical reason." He understood the use to be made of it, and the *rôle* it should play in education. In the course of life each individual is led to formulate for himself rules of conduct, varying with the kind of life he leads, his tastes, preferences, habits, and needs. The rake and the hard-working man, the criminal and philanthropist, alike obey certain constant rules which at bottom are only the theoretical formula of their practice. This apparently singular fact is due, according to Herbart, to the necessary priority of action to the analysis or criticism of action. Moral consciousness itself does not exist in every detail in the child's mind; but it is developed in proportion as the child is called upon to act. If, then, we wish to exercise a moral influence on children, we must direct their actions before teaching them axioms; we must, as Herbart says, let them formulate for themselves rules of conduct conformable to the virtuous habits inculcated in early life. "Men, if they are not fond of carrying their maxims into practice, never forget to turn their practice into maxims. Now this offers no inconvenience when the practices are good practices." The idea is true, but is exaggerated by Herbart when he thinks it useless to give maxims to children. It is good to accustom the child to make for itself a *law*, a *duty*, an *obligation*, but as we cannot count on the absolute spontaneity of the child, we must first impose on it a law which it recognises as just and rational. The law will then be accepted, and autonomy will subsist until it becomes obedience. Only, for this to be so,

we must wish and act as a real lawgiver should—*i.e.*, with perfect uniformity and perpetual constancy. Thus the influence of education will be added to that of heredity. The latter may be enough to produce genius, but it will never be enough to produce true morality.

CHAPTER III.

PHYSICAL EDUCATION AND HEREDITY. THE BOARDING-SCHOOL. OVERPRESSURE.

I. *The Absolute Necessity of Physical Education in the Education of the Race.*—Reasons for its neglect at the present day—Sedentary habits and their dangers—Precocity.

II. *The Boarding-School Question.*—English public schools—The tutorial system—Germany—The United States.

III. *The Question of Overpressure.*—Necessity for recreation and games—Gymnastics, its advantages and shortcomings.

IV. *Manual Work in Schools.*

V. *The Physical Progress of the Race, and the Growth of Population.*

I. *The Absolute Necessity of Physical Education in the Education of the Race.*

It is said that the first pen ever used for writing was a cornstalk. With the stem of the corn that nourishes the body the first intellectual food is prepared.

Whatever the sex of a child, its bodily powers may always be developed without any inconvenience, for physical health under all circumstances is a desirable possession. On the other hand, intellectual over-pressure, by fatiguing the body, may disturb the equilibrium of the mind. "To brace the mind, we must strengthen the muscles," said Montaigne. And

Rousseau observed that "the weaker a body is, the more it commands; the stronger it is, the more it obeys."

"The rationale of our high-pressure education is that it results from our passing phase of civilisation." "In primitive times," says Spencer, "when aggression and defence were the leading social activities, bodily vigour, with its accompanying courage, were the desiderata; and then education was almost wholly physical; mental culture was little cared for, and indeed, as in feudal ages, was often treated with contempt. But now that our state is relatively peaceful,—now that muscular power is of use for little else than manual labour, while social success of nearly every kind depends very much on mental power,—our education has become almost exclusively mental. Instead of respecting the body and ignoring the mind, we now respect the mind and ignore the body. . . . Few seem conscious that there is such a thing as physical morality. Men's habitual words and acts imply the idea that they are at liberty to treat their bodies as they please."[1]

"Though the evil consequences inflicted on their dependents, and on future generations, are often as great as those caused by crime, yet they do not think themselves in any degree criminal. It is true that in the case of drunkenness the viciousness of a bodily transgression is recognised; but none appear to infer that if this bodily transgression is vicious, so too is every bodily transgression. The fact is that all breaches of the laws of health are *physical sins*."[2]

The object of education is to develop all the powers

[1] Spencer, *Education*, p. 189 (stereotyped edition). [2] *Ibid.*, p. 190.

of a being, to cause it to act in all directions, to make it *expend* as much as possible, and therefore not to draw upon it except for expenditure easily made good,—expenditure setting up the process of recuperation, and in some measure itself recuperative.

Exercise in the open air is a type of expenditure of this kind. The exact opposite of this is a prolonged stay in an unhealthy environment—*e.g.*, certain factories, a badly-ventilated clerks' office, the drawing-rooms where the middle classes spend a large part of their useless existence, or, finally, the French schools and colleges where sedentary habits are carried to excess. Sedentary habits are the greatest enemy of the body; the greatest enemy of the mind is inattention. The ideal of the educator is therefore to obtain from the child for a short period its whole attention, then to let it unbend and repair its expenditure.

II. *The Boarding-School Question.*

Hygienic mistakes in schools are very numerous; the time for meals is too short; the pupils eat too quickly and in silence,—this impedes their digestion. The bad air of the class-rooms gets worse and worse as the lesson is prolonged. We feel revulsion at the idea of all eating out of the same dish; but in reality in our school-rooms we breathe in this way, or rather we do worse still, and breathe an atmosphere already expired several times.

In addition to good food and good air, one essential point is a sufficient amount of well distributed sleep. Nourishment alone is not enough to repair the expenditure of the nervous system, and one of the

greatest inconveniences of modern education is the cutting short or the unwise distribution of the hours of sleep. Every one has recognised the dangers the boarding-school may present with reference to hygiene—overcrowding and confinement, unhealthy for mind and body alike; a rigid syllabus, narrowly conceived rules, breaking too often in the child that spring of the will, the strengthening of which education properly understood ought to have as its object; the difficulty of getting house-masters; separation from the family which ceases to care, while the child himself loses his home affections. In the time of Napoleon I. the most violent efforts were necessary to fill the boarding lyceums; the foundation of 6400 scholarships does not seem to have been enough for the purpose. Over and above this, the edict of January 18th, and the decree of November 15th, 1811, abruptly closed all the small boarding-houses established either by the University professors or by others. The boarding-house is therefore an institution artificially implanted in France by the all-powerful hand of the State. Napoleon wanted the student at a lyceum to be already a soldier and an official. Twenty years before, M. Sainte-Claire Deville called the attention of the Académie des Sciences Morales et Politiques to the question of morality in boarding-schools:—"Experimental morality, if I may use the expression, can no more be practised on man than physiology; but by operating on animals, and at the same time taking into sufficient account the human intellect, we may try to discover the physical causes of the faults and vices of children, who at certain periods of their development are so near the brute

creation, and I am sure we may eventually arrive at practical results of great interest. . . . In general, whenever we group together and bring into domestic restraint animals of the same—and especially of the male—sex, we notice at first a great excitement, and afterwards a formidable perversion of the reproductive instincts. On the other hand, when animals destined to live in community are kept in flocks, or are at complete liberty, we see the normal characteristics of the animal dominate. . . . What happens in a flock happens also in a collection of male children, of whatever kind it may be, though restrained by the strictest surveillance both day and night. The gravest inconvenience to society of these vices is the exaggerated development, between twenty or thirty years of age, of the generative faculties, from which spring debauchery and impurity of every kind." The consequences to heredity and the race are obvious.

Although the State has done much for instruction, it has done but little for education. If education is left in the hands of the State, the result will be large boarding-schools—the legacy of the sixteenth or seventeenth century Jesuits—where the child, parted from its family, acquires neither distinction of manner nor refinement. Education, says M. Renan, is respect for what is really good, noble, and beautiful; it is politeness, "that delightful virtue which atones for the lack of so many others;" it is tact, which is almost a virtue. "The professor cannot teach that purity and refinement of conscience, which is the basis of all solid morality, that bloom of sentiment which some day will be the great charm of the man, that mental subtlety with its almost imperceptible shades,

—where then can the child and young man learn all these? In books, in lessons, if due attention be paid to them? in texts learned by heart? Not at all; these things are learned in the atmosphere in which we live, from our social environment; they are learned in domestic life and nowhere else." Instruction is given in the class, the lyceum, and the school; education takes place in the father's house; the masters are the mothers and sisters. . . . "Woman, deeply thoughtful and moral, alone can heal the sores of the present times; alone can take up anew the education of man, and bring back the taste for the beautiful and the good." We must therefore take back the child, we must not entrust it to mercenary hands, we must never be separated from it except during the hours devoted to class-teaching.

The defenders of the boarding system speak of mutual formation of character. That is to say, that at school we quickly learn from the wholesome dread of solid fists to restrain within ourselves certain asperities of character; but to think that those asperities have in consequence disappeared, is to forget that the hostile environment immediately formed by children in relation to those who are distasteful to them is also apt to develop unsociability.

But if the boarding system is an evil, it is none the less a necessary evil, and those who wish the State to suppress it in the lyceums do not realise what its abolition would bring about. There are only about a hundred lyceums, and as many more colleges and private schools, where secondary education can be effectually given. Now there are thirty-six thousand communes, and in each of these communes there are many children who must receive secondary education.

Hence, for the provincial lower middle class, the boarding-school is the only, or at any rate the simplest, means of obtaining instruction for their children without too heavy a sacrifice. If the State suppressed these schools to-day, it would in the first place have to fear the competition of the clerical boarding-schools, and then schools of the same kind would be in a short time established by private individuals. Public instruction, instead of being a State department, would become a private speculation—the worst of all industries. These little private boarding-schools have all the inconveniences of the lyceums, without having either their scholastic advantages or their discipline. The master is more than anything else afraid of losing a pupil, so he must shut his eyes to all that goes on. His assistant masters are on contract (*i.e.*, the lowest tender accepted); so we may imagine what they are like. The food is just what we might expect from the minimum fees paid by the parents.

Lastly, there is far greater danger of immorality, for there is neither proper surveillance, nor is the head master responsible to the university authorities. *Laissez faire*, let things go, and hush up every scandal.

Though the boarding-school cannot be entirely suppressed, at least it may be improved. To understand in what direction it may be reformed, and even partially replaced, let us see what is done in foreign countries.

In England, a school of secondary instruction—Harrow, for instance—is quite a hamlet. Different houses, tenanted by the teachers and their pupils, are grouped around the main building containing the class-rooms. All around are wide stretches of ground

for tennis, football, and cricket. The boys, only massed together in school hours, leave school directly the lessons are over, and return to the house in which they live.

In fact, the boys sent by their parents to a public school as boarders are handed over to one of the masters, whose house becomes theirs. There they remain—and this is the important point—*during the whole time of their stay at school.* There they find, up to a certain point, family life; they have their meals with the master, his wife, his mother, and his sisters. A boy may have ten masters, but he has always the same tutor. Thus the tutors are able to carry out the regulations laid down by the statutes, and are to the boys *in loco parentis.*

The great schools are divided into two classes, according to the system pursued with respect to sleeping arrangements. At Eton, for instance, each boy has his own little room. In others, as at Rugby, the boys are distributed, at night only of course, in dormitories of from two to sixteen beds. But on one point they all agree—viz., the perfect freedom of the boys out of school hours. Once the lesson is over, the boy comes back, goes out, works, or plays, just as he likes and when he likes. The only rule that obtains is absolute; it refers to the hours of lessons, meals, and "lock-up," the latter being at nine in summer, and in winter at dusk. The only obligation is to have finished the work set by a stated time. "Severe penalties are inflicted for all forgetfulness, and for all neglected work." Under such conditions as these, surveillance as understood in France is literally impossible: out of school the boys watch and govern themselves.

The big boys, or rather the boys in the highest class, called *monitors*, *præpostors*, or *prefects*, are legally invested with power, and maintain their rights with all possible energy. This does away with the *maître d'études*[1] at once. I should add, that if this system became prevalent in France, it would be necessary to modify some of the English customs. Fagging, for example, would have no chance of being established here. The main objection is that English secondary education is of a very aristocratic character. The fees at Harrow or Eton are from £320 to £480 per annum. At this price they may have *comfort*. It has yet to be ascertained if it is easy for the child of a tradesman or peasant to pursue his classical studies. It is true there are many less expensive schools, and that there are a great many scholarships. Unfortunately the English themselves assure us that the "scholars" are looked down upon with the utmost contempt by their aristocratic school-fellows.

Harrow, Eton, and Rugby are the principal seats of secondary instruction, and nearly correspond to our great lyceums; there are about 800 boys at Eton, and 500 each at Harrow and Rugby, in age averaging from 13 to 18. Eight hours' work per day is the maximum; in most cases it is only six or seven; athletics—tennis, football, running, boating, and especially cricket—occupy a part of every day; in addition, two or three times a week there is no afternoon school, and games reign supreme.

I have shown from the French point of view the advantages of the English system; let us ask the

[1] The duties of the *maître d'études* are to look after the boys when not in school—*i.e.*, when preparing lessons, sleeping, walking, playing, eating, etc. (Tr.)

English themselves what are its drawbacks. The first is *physical overpressure*, which stands out in strange contrast to our intellectual overpressure. This physical overpressure has affected all classes of the community, even those who, from their position, would seem most likely to escape it—viz., the aristocracy. And, in curious contrast to what obtains in France, if the English doctors raise the question of overpressure, it is *physical* overpressure, and they lead the crusade against the abuse of *rough games*. The most pronounced opponent of games of strength in England is a contemporary novelist, Wilkie Collins, who, in his *Man and Wife*, discusses amongst other questions the present rage for muscular exercise, and its influence on the health and morality of the rising generation in England. In the preface of this book, written in 1871, he expresses himself as follows :—

"As to the physical results of the mania for muscular cultivation which has seized on us of late years, it is a fact that the opinions expressed in this book are the opinions of the medical profession in general—with the high authority of Mr. Skey at their head. And (if the medical evidence is to be disputed as evidence based on theory only) it is also a fact that the view taken by the doctors is a view which the experience of fathers in all parts of England can practically confirm by reference to the cases of their sons. This last new form of our 'national eccentricity' has its victims to answer for—victims who are broken for life.

"As to the moral results, I may be right or I may be wrong, in seeing as I do a connection between the recent unbridled development of physical cultivation in England, and the recent spread of grossness and brutality among certain classes of the English population. But, is it to be denied that the grossness and the brutality exist? and, more, that they have assumed formidable proportions among us of late years? We have

become so shamelessly familiar with violence and outrage, that we recognise them as a necessary ingredient in our social system, and class our savages as a representative part of our population, under the newly invented name of 'Roughs.' Public attention has been directed by hundreds of other writers to the dirty Rough in fustian. If the present writer had confined himself within those limits, he would have carried all his readers with him. But he is bold enough to direct attention to the washed Rough in broadcloth—and he must stand on his defence with readers who have not noticed this variety, or who, having noticed, prefer to ignore it."

Mr. Matthew Arnold, in his turn, does not hesitate to declare that the great mass of his fellow-countrymen are either Barbarians, recruited especially from the aristocracy; Philistines, forming the bulk of the middle classes; or the squalid masses, which he calls the Populace.[1] He is of opinion that the character of this or that class of society depends especially upon its conception of happiness; now the Barbarians, as he tells us, delight in honours, consideration, bodily exercises, field sports, and noisy pleasures. The Philistines care for nothing but fanaticism, the fever of business, money-making, comfort, and tea-meetings. As for the masses, their only happiness is in brawling, hustling, smashing—and cheap beer. Mr. Matthew Arnold asserts that in England public education is deficient, that it tends to increase the number of Philistines and Barbarians, and does but little to mitigate the brutality of the masses; that it would be a good thing for the government to take it in hand; that it is for the State alone to instruct and elevate the people; and that this system works well in France.

On the other hand, a great authority at the Universities, Edward Lyttleton, has pointed out in the *Nineteenth*

[1] *Culture and Anarchy*, chap. iii. (Tr.)

Century the abuse of athletics in schools. The spectators are so numerous, and to such an extent have the parents and the public encouraged these games, that they have become the dominant and almost exclusive interest of a large number of pupils. If a boy is robust and skilful, even if at the bottom of a class of dunces, the hope of approaching triumph is placed before him ; he becomes the master, and the absolute master. Teachers and heads of schools are obliged to subordinate themselves to the necessities of the games. Intellectual culture takes rank after athletics. As for morality, Mr. Lyttleton asserts that even if games are of use in restraining certain disorderly habits, they have nothing in themselves of a moralising tendency. "Mere students are as a body more virtuous than the mere athletes." According to Mr. Lyttleton, the cause of this excess is the infatuation of the public and its enormous interest in games.[1]

In spite of all these drawbacks, it must be agreed that this athletic education, confined within proper limits, is a condition of the regeneration and hereditary strength of the race. If an idle fellow in England becomes a Hercules, it is a compensation and consolation to the race. But our idle boys are "little and overworked," only adapted to cause our race to disappear.

Let us now see how things are managed in Germany. M. Michal Bréal, who is singularly competent to speak on this question, will give us the information we require. In Germany the parents look out for some family of good repute, able and willing to give the child board and lodging. He is received

[1] *Nineteenth Century*, January 1880.

as a playfellow of the children of the house, and has his place at the domestic hearth. All this is done for a sometimes astonishingly small remuneration; the little guest disturbs no arrangements, an unoccupied room is all he wants, and one mouth more at table increases inappreciably the household expenses. For two hundred years this custom has obtained in Germany, and there is no likelihood of its being abandoned. "At the present moment, out of one thousand pupils at the gymnasiums, less than a hundred are without the advantages of family life."[1] The boarding-school does, however, exist in Germany, but is the exception to the rule.

In the matter of school organisation, the United States are inspired both by Germany and England; there we find schools like Harrow, for instance, for the children of the wealthy classes.

How far are these different systems applicable in France with our present customs? With reference to the adoption of the English tutorial system, it may be objected that if the teacher fulfils at the same time

[1] This system also obtained in France in bygone days. "I was born," says M. Renan, "in a small town in Lower Brittany, where was a school kept by a few respected ecclesiastics who taught Latin very well. The perfume of antiquity exhaled by that house enchants me now when I think of it; one might imagine one's self transported to the days of Rollin or of the recluses of Port Royal. This school was attended by the youth of the town and of the country round within a radius of from six to eight leagues. There were very few boarders. When the young folk had no relations in the town, they lived with the townspeople, many of whom made some little profit in the exercise of this hospitality; the relations coming in to market on Wednesday brought the children their provisions for the week; and the latter messed in common with much cordiality, gaiety, and economy. This was the system pursued in the Middle Ages. It is also the custom in England and Germany,—countries so advanced in all matters connected with education."

the duties of tutor, his office must sustain some detriment. We cannot without danger combine the work of preparing a class with the absorbing care of private teaching. "The university," says Bersot, "has a staff of professors, men much respected and of great distinction, with modest means, but independent of the families whose children they educate, entirely devoted to the work of their classes, or perhaps adding to it other labours, ranking among the most important works of our time; we do not want them to be other than they are, or to cease to do what they do so well." When he represents our professors as *entirely devoted to the work of their classes*, Bersot forgets that nine-tenths of them spend their days in giving private lessons, etc., no less absorbing and stupefying than tutorial work. It is obvious that only such professors as these would take boarders.

The model Alsatian school, into which have been introduced most of the reforms lauded by modern pedagogues, has succeeded in replacing the boarding-school by the tutorial *régime*. The *Directeur* of the school recently congratulated himself, and with good reason; he contrasted the life of a boarder in one of the best lyceums with the child's life in one of the teacher's houses. The child sleeps in his own room; his private life is watched as it would be by his father or mother, but it is respected. He gets up early in the morning, not at the sound of bell or drum, but because the whole household is getting up, and because there is a tradition that morning work is the healthiest and most fruitful. He does his exercises, or he learns his lessons, either alone in his own room, if he is a big boy, or in the common room with other

little friends of his own age, under the paternal care of the head of the family, or sometimes under a young master—a teacher in the school—who is like an elder brother of the pupils. The holidays, Thursday and Sunday, are always devoted to long walks; the country is visited in order that the boys may have the opportunity of giving themselves up to those amusements which form the best part of the existence of the English youth—walking, rough games, cycling, skating, swimming; there the boarders frequently meet their school-fellows; in fact, life in the open-air, long walks, and bodily exercise are the traditions not merely of the school but of most of the families from which the pupils are drawn.

We may also mention the Ecole Monge as a model of an improved boarding-school, where the children talk during meals; where—and I draw particular attention to this point—they sleep in a well-ventilated room, the younger children for 10 hours, the elder children for 9 hours; whereas at a lyceum the children above 13 years of age get no more than 8 hours' sleep in summer.

The only drawback is the question of money. Even in the Alsatian school, where the tutorial *régime* appears to have been established in a peculiarly economical fashion, the average fees are as high as £100 per annum for the younger children, and £120 for the rest.

Our higher primary instruction is at present provided with boarding-scholarships, which are a very happy adaptation of the German plan. The holders of these scholarships are placed in families within easy distance of the schools, and the State pays £20 a year for their board. If we remember that these

scholars are on the average between 12 and 16, we may hope that an average of £28 per annum would be enough for the board of pupils receiving secondary instruction. Add to this the school fees—about £12 per annum—and the total expense is not greater than that of the ordinary boarding-school. Hence the boarding-out system, from the pecuniary point of view, does not raise the same objections as the tutorial system. The difficulty would be to find the families (with the necessary guarantees) to whom the children might be entrusted. MM. Bréal and Raunié think they would certainly be forthcoming. The parents of day-boys would often offer to receive some of their boys' school-fellows. In this way would be formed little groups of scholars, over whom the adopted family would exercise the necessary care and supervision.

The day-school system leaves to the family its share of legitimate and necessary action. In Paris and our great towns it is the day-school to the development of which our main attention must be drawn.

In France we have pushed uniformity to the verge of eccentricity. Why should all our lyceums and schools be organised on the same type? Why should we not try the partial introduction into France of the public school, the tutorial, and the boarding-out systems? But, at the same time, the boarding-school must be reformed. Discipline must be relaxed; children must be allowed to talk whenever they may talk without inconvenience; supervision must be improved by investing those to whom it is entrusted with more authority; mutual discipline must be organised by monitors and pupils of high standing.

As authority based on capacity is the only authority

that is not factitious, *maîtres d'études* can only be retained on condition that they are really repetition-masters—*i.e.*, that they have to correct exercises and hear lessons. But how can that be properly done in a class of from 25 to 30 boys? M. Jules Simon proposes to re-establish in France the long-abandoned system of entrusting parts of the supervision to the boys. This proposal arouses the cry of, "Oh, that is espionage!" "Not at all," replies M. Simon; "there is no such thing as open espionage." Give the boys the sergeant-major's stripes, and extend into school hours the authority entrusted to them at other times. There is no espionage in that, nor is good-fellowship affected. As soon as ever such a small degree of supervision is entrusted to the head boys, the duties of supervision will be changed in the eyes of the whole school, and the repetition-masters will be able to take their share without loss of dignity. "I have seen this plan in working order on a very large scale," adds M. Simon. "We had only one preparation-master for 60 or more boys; but in each form a boy was entrusted with the maintenance of discipline, and he acquitted himself of his duties admirably, without losing caste or being the worse thought of for it. No difficulty occurred if the master went out; silence prevailed as if he were in the room. It is all a question of habit. Military rank is a very good instrument for the attainment of this end." It is important that we should realise that we are almost the only European nation who do not utilise the elder boys in the maintenance of discipline among their younger school-fellows. It is of course true that the Frenchman is so undisciplined by nature!

Again, we must reform in the matter of walking.

In the days of the Jesuits, and in most of the Catholic schools, long walks were rather frequently taken. A rendezvous was appointed—an old castle, a remarkable site, the sea coast, etc. Generally a lunch was served on the grass, or even supper if weather permitted. A long walk was always necessary before the goal was reached, but it was done merrily, and the very fatigue became a pleasure. "I thought of introducing this plan into our schools," says M. Simon; "I thought of giving our walks an instructive object."[1]

[1] M. Simon thinks that if the weather is uncertain, and the country impossible, the boys should go to the museum at the Louvre, sometimes with a drawing-master, but in most cases with the master who teaches history or literature. "Another day we might have visited Cluny, La Monnaie, the Fine Art Schools. The history-master might have taken us to the National Library to admire the books, manuscripts, medals, stamps, and the palace itself, so full of memories of Mazarin. There is always something to teach, even if we do nothing but walk about the streets of a town so often the scene of the most important events in French history. Nôtre Dame, in the heart of Paris, teems with lessons. This building alone teaches us half the history of France. There Henry IV. went to hear the *Te Deum* immediately after his return to Paris; there, too, after the abjuration of Gobel, was inaugurated the worship of the goddess Reason. In the square of the Hôtel de Ville, or rather in one of its corners, for our fathers liked to crowd together, they used to hang, draw and quarter, break on the wheel, torture, and burn. There many a bonfire has blazed. There have been heard cries of '*Vive le Roi!*' to all the kings of France; there, too, cries of '*Vive la République!*' to every provisional government; until at length, on a day of eternal shame, the Palace of the Ville de Paris was converted into a sinister ruin. Going up the Rue St. Antoine we find no traces of either the Hôtel St. Paul nor of the Bastille. *Etiam periêre ruinae.* We should have summoned around the Hôtel Rambouillet the shades of the great Corneille, Chapelain, and Voiture. We should have visited the room in which Voltaire died, the street in which Jean Jacques Rousseau lived, the street where Molière was born, the spot whither his body was carried, in doubt if a corner could be obtained as a resting-place for his remains. Paris, a town of eternal agitation, allows all its relics to be destroyed, either by the weather or by rioters, nay, sometimes at the

The country ought to be an especial attraction to children; in it they should lay up a store of good spirits and health.

In geological walks, the master before starting gathers the boys together, and in twenty minutes gives them a few general notions on the district they are going to study; then each takes his hammer and his bag, and they rush off to get in the open air a lesson, the recollection of which will never be effaced. The sciences of facts—history, natural history, and geography—are learned by the eye. Montaigne was not content with walks for his pupils: like Locke, he wanted real travels.[1] Nothing could be easier and less expensive, as Bouillier has shown, than the journey from one lyceum to another, to the sea or mountains, to a town full of interest, from Paris to the provinces, or from the provinces to Paris, putting up all along the road at the schools and lyceums, which would be like so many free inns; the schoolboy's uniform—as in the army—ensuring reduced railway fares. Mutual hospitality between the schools

expense of its magistrates. It scatters broadcast neither statues nor inscriptions; and all this makes one more reason for piously following up the traces of history—*campos ubi Troja*. Even to understand the history of the Revolution we have to take into account the subsequent changes in Paris. If we are unaware that between the Louvre and the Tuileries lay a whole quarter, theatres, palaces, a market, a hostelry for pages, and two barracks, how can the events of the 10th of August be explained? How many Parisians know where the Convention sat? or where the Salle de Feuillants or the Salle de Jacobins were situated? Medical students who visit the Dupuytren Museum do not know it was once the Club of the Cordeliers. Does the obelisk between the Champs-Élysées and the Tuileries hide or mark the site of the revolutionary scaffold?"

[1] "Ie vouldrois qu'on commençeast à promener l'enfant dez sa tendre enfance par les nations voysines où le langage est plus esloingué du nostre. . . ."—Montaigne, *Essais*, bk. i., chap. xxv. (Tr.)

on these travels would take the place of payment. The boarding-schools should be established outside the towns, and—if practicable—on the hills: if we had, as they have in England and Germany, great schools far in the country, near forests, or better still on the heights of the Dauphiné or on the Pyrenees, fashion would eventually make them the homes of education for the wealthy classes. In this way we could combat the degeneration of the middle classes, which is much more rapid in France than elsewhere, because the custom of restricting the number of children of itself is sufficient to check natural selection of the higher qualities.

Others might be established near the large towns, but always in the country, and within easy reach by rail or tram. The companies would give to pupils and masters, on the presentation of satisfactory certificates, school season-tickets at extremely reduced rates, as is already done in a few places in France and everywhere in Belgium and Germany. Daily special trains, like the children's Sunday trains from Paris to Vanves, Fontenay, etc., might be organised to take children to a place in the morning and bring them back in the evening. In this way the difficulties arising from both children and masters living at a distance from the school would be removed.

III. *The Question of Overpressure.*

The question of overpressure has long divided and passionately excited men of intellect.

Spencer justly remarks that "in all businesses and professions, intense competition taxes the energies

and abilities of every adult. . . . The damage is thus doubled. Fathers, who find themselves run hard by their multiplying competitors, and, while labouring under this disadvantage, have to maintain a more expensive style of living, are all the year round obliged to work early and late, taking little exercise and getting but short holidays. The constitutions shaken by this continual over-application they bequeath to their children. And then these comparatively feeble children, predisposed to break down, even under ordinary strains on their energies, are required to go through a *curriculum* much more extended than that prescribed for the unenfeebled children of past generations. The disastrous consequences which might be anticipated are everywhere visible," especially in the case of girls, and they are accumulated by heredity. "In a child or youth the demands upon this vital energy are various and urgent; . . the waste consequent on the day's bodily exercise has to be met; the wear of brain entailed by the day's study has to be made good; a certain additional growth of body has to be provided for; and also a certain additional growth of brain; to which must be added the amount of energy absorbed in digesting the large quantity of food required for meeting these many demands. Now, that to divert an excess of energy into any one of these channels is to abstract it from the others is both manifest *à priori*, and proved *à posteriori* by the experience of every one. . . . Every one knows that excess of bodily exercise diminishes the power of thought—that the temporary prostration following any sudden exertion, or the fatigue produced by a thirty miles' walk, is accompanied by a disinclination

to mental effort; that, after a month's pedestrian tour, the mental inertia is such that some days are required to overcome it; and that in peasants who spend their lives in muscular labour the activity of mind is very small. . . . During those fits of rapid growth which sometimes occur in childhood, the great abstraction of energy is shown in an attendant prostration, bodily and mental. . . . Violent muscular exertion after eating will stop digestion; children who are early put to hard labour become stunted;" these facts "similarly imply that excess of activity in one direction involves deficiency of it in other directions. Now, the law which is thus manifest in extreme cases, holds in all cases. These injurious abstractions of energy as certainly take place when the undue demands are slight and constant, as when they are great and sudden. Hence, if during youth the expenditure in mental labour exceeds that which nature has provided for, the expenditure for other purposes falls below what it should have been; and evils of one kind or other are inevitably entailed. . . . The brain, which during early years is relatively large in mass but imperfect in structure, will, if required to perform its functions with undue activity, undergo a structural advance greater than is appropriate to its age; but the ultimate effect will be a falling short of the size and power that would else have been attained. And this is a part cause—probably the chief cause—why precocious children, and youths who up to a certain time were carrying all before them, so often stop short and disappoint the hopes of their parents. . . . Various degrees and forms of bodily derangement, often taking years of enforced idleness to set partially

right, result from this prolonged over-exertion of mind. Sometimes the heart is chiefly affected; habitual palpitations; a pulse much enfeebled; and very generally a diminution in the number of beats from seventy-two to sixty, or even fewer. Sometimes the conspicuous disorder is of the stomach; a dyspepsia which makes life a burden, and is amenable to no remedy but time. In many cases both heart and stomach are implicated, mostly the sleep is short and broken. And very generally there is more or less mental depression. Excessive study is a terrible mistake, from whatever point of view regarded. It is a mistake in so far as the mere acquirement of knowledge is concerned. For the mind, like the body, cannot assimilate beyond a certain rate; and if you ply it with facts faster than it can assimilate them, they are soon rejected again: instead of being built into the intellectual fabric they fall out of recollection. . . . It is a mistake too, because it tends to make study distasteful; . . . it is a mistake also, inasmuch as it assumes that the acquisition of knowledge is everything; and forgets that a much more important thing is the organisation of knowledge, for which time and spontaneous thinking are requisite. . . . It is not the knowledge stored up as intellectual fat which is of value; but that which is turned into intellectual muscle. . . . A comparatively small and ill-made engine, worked at high pressure, will do more than a large and well-finished one working at low pressure. What folly it is, then, while finishing the engine, so to damage the boiler that it will not generate steam!"[1]

The overpressure of which Spencer complains is

[1] Spencer, *Education*, chap. iv., pp. 174-186, *passim*. (Tr.)

much more exceptional in England than in France, where it may be said to be the rule. The pupils of the lyceums in Paris have four hours daily in class, and seven hours of preparation : eleven hours altogether ; and those who take up rhetoric and philosophy are allowed an additional half-hour. Eleven and a half hours' work per day ! During the scanty time allowed for recreation, they stop in a corner of the playground and talk together, or walk about like "grave citizens." Of games of ball or tennis the boys in our lyceums know nothing. "Are there many grown-up men among us who work eleven hours a day?" asks M. Simon. Quality of work is far better than quantity. This has been shown experimentally in the London schools. Chadwick, inspector of either schools or work-shops in England, was one of the founders of "half-time" schools. His experiment in London was as follows :—He divided the boys of a school into two series of almost equal strength—the 1st, 3rd, 5th, 7th, and 2nd, 4th, 6th, 8th, etc. One of the series worked all day, the other worked half the day ; after a time they were set to work together. The half-time school often beat the full-time school ; and "if it beat it at school-work, it *à fortiori* beat it in games." It was shown that two hours' good work was of more value than four hours' indifferent work.[1]

How many masters have the boys who are taught rhetoric in the lyceums of Paris? M. Jules Simon, formerly Minister of Public Instruction, is in a better

[1] In 1832 Chadwick was a Chief Commissioner on the Poor Law Commission, and in 1833 he was a member of the Central Board of the Factory Commission. For account of Sir Edwin Chadwick's efforts, *vide* Dr. B. W. Richardson's *Health of Nations*, vol. i. See also Matthew Arnold, *Reports on Elementary Schools* (1889), pp. 58, 242. (Tr.)

situation to tell us than most men. First of all there is a teacher of French rhetoric, and then a teacher of Latin rhetoric. The former teaches five, and the latter six hours a week. Then the mathematical master has two hours, chemistry is contented with one hour, German or English (at choice) one hour also; the history master takes three hours. Each of the six masters has a very full syllabus. "For example, the master of French rhetoric does not merely teach rhetoric; he also gives a course in the history of French literature. Naturally the master of Latin rhetoric does the same with Latin literature. Then come the German and English masters, who teach the history of their respective literatures; indeed, this is the best part of their work. It is agreed that if a boy wants to know English or German, he must learn it after having finished his other work. The history master teaches history and geography, but with such a wealth of detail and such marvellous erudition, that his teaching cannot possibly give any idea of, say, the ensemble of a country, nor of the sequence of events." What can the boys do in the presence of these six masters, who bring them a number of "theses on French authors, Latin authors, Greek authors, German authors;" interminable demonstrations in geometry and arithmetic; the endless nomenclature of natural history, historical facts enough to make a Benedictine shudder.[1] What better can be done for this boy with so many masters than to store up in his head with all rapidity these fine things? If he takes the trouble to ask his master a question on some point

[1] An allusion to the pedantry of the school-men. *Vide* Compayré, *Histoire Critique des Doctrines de l'Éducation en France* (1885), p. 70. (Tr.)

as it occurs, the answer is—"Detail! what more do you want? There is no time. There is no time." If the lad should ask his master to stop a moment and explain something to him, the master is already several ideas ahead—he would never catch up again; his neighbour and competitor would have stored up a dozen ideas while he, poor fellow, was stopping at the first: he would be bottom of the class! "When he is stuffed and crammed in this way, when he has piled up and pressed down all his mental stock, the moment comes when he has to admit—'there is no more room!' but the master is behind him and cries—'A little courage! only about fifty more facts and a mere dozen or so of proofs.' The net result is that our boys at the lyceums are crammed with ideas they do not understand, and with facts over which they have no control. Are the facts true? are the ideas false? That is not their business. They have to keep them in their heads, not to criticise them. A jury of masters is impanelled, gorgeous in rose or yellow silk hoods; they summon the delinquents, and make them draw numbers by lot. 'Gentlemen, each number has fifty facts to repeat.' If a candidate answers, 'I know sixty'—which is very rare—he is hailed the first." And afterwards?—this bachelor, licentiate, or doctor, what is he? A store-house, with its boxes and shelves crammed with all sorts of ideas of which he does not know the value, and facts of which he does not know the authenticity; his memory is so overloaded that when he tries to live, dragging this load behind him, he spills the contents on his way through life. His memory becomes a blank; but as it was cultivated at the expense of all else, and as it is clear the rest never existed, once his store is lost,

he has no means of renewing it; he has neither energy nor method to study alone, nor judgment to see for himself and appreciate, nor will to form a resolution. He is a *baccalaureus*, not a man; for what is man, if he be not judgment and will? And, adds Jules Simon, the master is himself the first victim of this mandarin system. They begin by imposing on him the programmes of work he imposes on the children; and before robbing the latter of their liberty, they take very good care to deprive the former of it. The greatest crime a master can commit in class is to be himself; if he is so unfortunate as not to follow the syllabus exactly, and not to conform blindly to official instructions and circulars, he is lost. He is conceited, and will never get on, and is lucky if he does not lose his employment. "I do not *attack* him," adds M. Simon; "on the contrary, I am *sorry* for him, for in reality *he* is not in the class-room, where he is nailed for four hours a day. The greatest reproach I can utter against this overpressure is that by oppressing the masters it suppresses them. I cannot help feeling that these boys who go from French Rhetoric to Latin Rhetoric, from German to History, from Chemistry to Mathematics, are left to themselves. They are not helped at all, because they are helped by too many people. There are professors, but no teachers; there are students and an audience, but no scholars; there is instruction, but no education. They make bachelors, licentiates, and doctors, but making a man is out of the question; on the contrary, they spend fifteen years in destroying his manhood. What do they turn out for the community? A ridiculous little mandarin, who has no muscles; who cannot leap a gate; who cannot give his elbows play,

or fire a gun, or ride; who is afraid of everything. But, on the other hand, he is crammed with every kind of useless knowledge; he does not know the most necessary things; he can neither give advice to anybody else nor to himself; he needs guidance in everything; and feeling his weakness, and having lost his leading-strings, he, as a last resource, throws himself into State socialism. The State must take me by the hand as the University has done up to now. It has taught me nothing but passive obedience. A citizen, did you say? I should perhaps be a citizen if I were a man."

We know that when the Académie de Médecine took up this question, M. Peter spoke very strongly on overpressure. The University course is not made for what may be termed the average intellectual capacity; they rise above this average, and daily, under the pretext of completing the programmes, make them still more impossible. When a muscle is fatigued by excess, it becomes curved, owing to the accumulation of the products of disintegration; similarly the brain, when fatigued beyond measure, is exposed to the obstruction caused by the waste of life, to a real curvature. The first symptom of this state is violent headache. If this preliminary warning receives no attention, if the work goes on as before, if the curvature increases, the headache becomes periodic, more and more frequent, and becomes maddening from the continued intellectual strain. A kind of veil is drawn over the intellect, and the ideas get entangled. M. Peter sees an analogy between this and *writer's cramp* in the muscle, a functional spasm affecting the brain. But this is only the beginning of pathological phenomena.

Cerebral and intellectual overwork is almost non-existent in the primary schools.[1] In secondary

[1] Overwork may exist in towns, but not in rural schools. In the latter the children do too little home-work, and are too often absent to feel brain fatigue. The dangers really existing in the village school do not arise from overpressure, but from staying in a necessarily vitiated atmosphere. That is the danger, and this is the remedy. Compel every backward and refractory commune to provide proper school buildings, large enough for the demand, and provided with good apparatus. On the other hand, I may append a few rules that, if followed, would prevent fatigue in the children in primary schools:—"Rules formulated by the Société d'Hygiène de Genève (*Revue Pedagogique*, March 15th). The first hours in morning school should be devoted to those subjects demanding most intellectual effort. Lessons should be broken off every hour for recreation, allowing each pupil opportunity for bodily exercise." The regulations in France do not allow of recreation every hour; but motions with the arms might be gone through, the children standing in their places. "In general, the master should stop teaching as soon as he sees signs of fatigue or excitement in the children, and should let them rest a few moments. All lessons should be arranged so as to be alternately active or passive —*i.e.*, the children should be called upon to speak, listen, and apply the teaching given. Long written exercises should be avoided. Children should only be required to learn what they thoroughly understand. The home-lessons should be as limited as possible. They should be in proportion to the child's age, they should be such as can be done with delight and pleasure, and should satisfy the demands of quality rather than of quantity. Impositions should as a rule be prohibited, and in any case should appeal to the intellect of the child."

The Académie de Médecine appointed a Commission to find a remedy for intellectual overpressure. This Commission drew up a report; the principal items affecting primary education were as follows:—From three to eight hours per day, according to the child's age, should be the limit of intellectual work. Twenty to thirty minutes should be the outside length of each lesson for children; the syllabus should be reduced in proportion to the length of the lessons and time of preparation; at present the examinations cover far too wide a ground, are too encyclopædic; *partial and frequent* examinations should be substituted for them, limiting the intellectual strain, and allowing the intellect time to assimilate the knowledge acquired. It is necessary to devote, according to age, from six to ten hours a day to physical exercise (games, walks, drill, etc.).

schools it affects about one-third of the pupils, those who wish to reach the top of the class, who are preparing for an examination, or for entrance to a State school.[1] But in spite of this a certain amount of overpressure obtains, even among the masters, and this is due to the length of the lessons, and to the sitting for too long a period in a close atmosphere. Even if they do nothing, it makes no difference; the mere effort of sitting still fatigues and exhausts. Finally, it is very fortunate that there are idle people; they save the race from too rapid degeneration.

In England the number of hours of brain-work is about half as much as in France. The most hard-working schools require no more than seven or eight hours per day; others are content with six.

[1] Although at the Central School of Arts and Manufactures the pupils work only seven hours at school, they have to work four or five hours, or even more, at home. In the École Polytechnique, lessons and preparation last eleven hours and a half, and during the time allowed for recreation the hard-working pupils go to the library. In the lyceums for young girls, and in the classes for teachers, the work is equally excessive.

When we see from 25,000 to 30,000 young men and women, with no means and unable to get work in spite of having had technical instruction, we regret that with this instruction they were not taught a trade or handicraft, which, while preventing overpressure and a sedentary life during school-days, might have eventually placed them, if occasion arose, out of danger of want. "As instruction in the army and the schools is compulsory," says M. Lagneau, "the Minister of War and the Minister of Education should arrange that gymnastics, fencing, swimming, riding, walking, the handling of arms, military manœuvres, coming between the intellectual work of class and preparation, and preventing overwork and sedentary habits, should count with science and letters in the winning of diplomas and certificates, and should decrease the period of compulsory military service. But a law analogous to that of May 19th, 1874, is necessary, restraining excessive manual labour of children in factories, and equally restraining excessive intellectual labour of children and young people in all educational establishments."

Germany also may be taken as a model, but not so much for reduction as for division of work. This accounts for Bersot's saying: "When I saw the German lessons interrupted every hour or every three-quarters of an hour by recreation, I was ashamed of our barbarity in shutting up children in a class-room for three hours on end—three hours in the morning, and three in the afternoon—at an age which is intoxicated with life; and I cannot understand how it came about that French children—the most restless in the world—were ever subjected to this *régime*." Two private institutions, the École Monge and the École Alsacienne, have set the example. At the École Monge, for instance, the eleven and a half—nay, even twelve—hours per day of the boy at the lyceum are reduced to nine; the younger boys only work seven hours and a half. The longest spell of work without a break is two hours and a half. Every boy at the École Monge gives half-an-hour per day to gymnastics; this is three times more than is allowed in our lyceums.[1]

The advantage, in the competition of races and individuals alike, is not only, nor perhaps even mainly, on the side of superiority of knowledge; it especially depends on the ample provision, natural or acquired, of physical energy and intellectual good sense, which alone can give knowledge its full value. Hence the Commission d'Hygiène, inspired by the example of the United States, is right in bearing in mind the *American rule of the three eights*—8 hours sleep + 8 hours work + 8 hours freedom = 24 hours. "We think," reported the Com-

[1] *Vide* M. Burdeau, *L'École Monge*.

mission, "that this is an excellent rule, and that eight hours' work should be considered a maximum which the children of primary schools should never reach, and which the children of other schools should never exceed. The length of a lesson should be reduced to an hour and a half."[1]

Games must be multiplied, and carried on with more life.[2]

Finally, it is all-important to encourage bodily exercise, so necessary for individual and race alike. In his *Émile*,[3] Jean-Jacques Rousseau gave an impulse in favour of these exercises to a movement which was propagated especially in Germany, where, developed by national and warlike aspirations during the War of Independence, the present system of German gymnastics came into existence. To the

[1] Out of each lesson two hours long, at least from thirty-five to forty minutes are wasted. Further, the child of eleven and the youth of eighteen are subjected to the same *régime*. Tasks and home-work in the lower classes are by an abuse made to fill up the whole of the child's day. Evening work begins about five and ends at half-past seven or a quarter to eight. Two whole hours and a half are given up to an exercise, translation, or problem in mathematics.

[2] They never play, at least in forms above the third; they walk round a dismal courtyard, generally treeless, from right to left—not from left to right—in certain lyceums, where gyratory motion *sinistrorsum* is considered as antagonistic to discipline. This is Dr. Gauthier's statement. They never sing; shouting is a breach of discipline, or barely tolerated; it fatigues the ears of the master, or whoever does the supervision. Games of ball, bowls, skipping, leap-frog, quoits, etc., etc., are quite unknown. The boys walk round and round the narrow cages known as the playground; "they crouch in the corners if it is cold or wet. Justly do the managers of sectarian schools prefer violent games in which the staff take part, to the malicious and suspicious gossip that goes on in other schools." Further, this recreation time is only two and a half hours for the little fellows, and only an hour and a half for the bigger boys.

[3] Book ii., *passim*. (Tr.)

latter system is now opposed a theoretical form of bodily exercise,—Swedish gymnastics,—of which the fundamental idea is the necessity of "confining exercise to movements, really very varied, but as simple as possible." These movements, exercised against determinate resistances, ought "to methodically strengthen each individual muscle, and to enable the subject to attain the ideal of muscular development." German gymnastics have been attacked from the point of view of the English and their sports. Until quite recently the English have had nothing analogous to German gymnastics. Separated more than ever from the Continent during the French revolution and the Empire, they have been almost unaware of the movement initiated by Rousseau. The aspirations of Jahn, which bore more or less the stamp of German chauvinism, could find no entrance into England. But the English, as Dubois-Reymond points out, felt the need of gymnastics far less than continental nations. Thanks to the country life of the wealthy classes, and the common life of young people educated in the great public schools, the numerous contests and national games referred to above have been introduced, which, by the variety of the movements required, are an admirable exercise for the body: the English mountain-climbers who have ascended Chimborazo are an excellent instance in point. The impassioned interest exhibited throughout Great Britain in the annual boat-race between Oxford and Cambridge—the "dark-blues" and "light-blues"—can only be compared to the enthusiasm aroused in the Greeks by their national games; it excites youth to greater efforts.

If, with the knowledge we now have of the different

kinds of bodily exercise, we proceed to form an opinion upon the relative value of the three forms—German gymnastics, Swedish gymnastics, and English sports, we may first of all remark that the second of the three is of little use in the bodily development of healthy youth.[1] Bodily exercise, says Dubois-Reymond, is not merely muscular exercise, as superficial observers wrongly suppose; but it is what is of far greater importance—an exercise of the grey matter of the central nervous system. This alone condemns the Swedish system from the physiological point of view. The system may strengthen the muscles, but it does not give facility in complex movements. "We may even suppose the case of a physical training which would give to the muscles of a Caspar Hauser gigantic strength, while at the same time the victim of the experiment would be unable even to walk. Swedish gymnastics are only valuable from the therapeutic point of view, to preserve or re-establish the activity of certain groups of muscles (for very few muscles can be contracted singly by mere will)."[2]

As for the relative value of German gymnastics and English games, the latter correspond in a certain measure to the requirements deduced from physiological analysis. They make men skilful in running, leaping, dancing, wrestling, riding, swimming, rowing, and skating. But, according to Dubois-Reymond, German gymnastics afford the possibility of giving to an unlimited number of pupils, of every age and condition, the opportunity of exercise with almost a

[1] *Vide* Article on "Gymnastics," *Journal of Education*, March 1891. (Tr.)

[2] Dubois-Reymond, *L'Exercice.—Vide* Lagrange, *L'Hygiène de l'Exercice*, 1890, part v., chap. i., pp. 273-286. (Tr.)

minimum of apparatus, and independent of conditions which are often impossible to obtain; and further, it has the moral advantage of an effort which has as its object "self-perfection as an ideal end, without any immediate utility,—clearly resembling in this the intellectual education which obtains in the German gymnasiums;" in fact, the intelligent choice of German exercises, confirmed and corrected by experience, leads to a much greater uniformity in the development of the body than could be attained if the individual, as in England, obeying his inclinations, and determined by any circumstance whatever, devoted himself, according to his caprice and with the eagerness given by ambition, to rowing, or riding, or tennis, or climbing mountains. A youth trained by the German method possesses the great advantage of being master of forms of movement adapted to each position of the body, just as the thoroughly-grounded mathematician is provided with methods for the solution of every problem. Besides, nothing prevents the German gymnast from passing from his theoretical exercises to any practical exercise of immediate utility. "As he has learned how to learn, he will rapidly acquire the utmost skill attainable from his natural disposition, just as we are told the student from the gymnasium very soon catches up to the technical student in the laboratory."

Moreover, all bodily exercises are in favour among the Germans; riding, cycling, boating, and fencing are much more popular than in France; the State compels two hours a day to be given up in all schools to physical exercise under the direction of a special teacher. At Berlin, gymnastics are under the care of a Superintendent, just as we have a Head of the

University in Paris. In Germany they feel that a race without muscles, with nothing but nerves, a race in which cerebral activity is dominant, is but ill equipped in the struggle for existence.[1]

English games do not deserve the strictures passed upon them by Dubois-Reymond as compared with the more scientific system of the Germans; the latter is far too much like a lesson. "In this, as in other cases, to remedy the evils of one artificiality, another artificiality has been introduced. Natural spontaneous exercise having been forbidden, and the bad consequences of no exercise having become conspicuous, a system of what Spencer calls 'factitious exercise' has been adopted. That this is better than nothing we admit;[2] but that it is an adequate substitute for games we deny." The defects of gymnastic exercises "are both positive and negative. In the first place, these formal muscular motions, necessarily less varied than those accompanying juvenile sports, do not secure so equable a distribution of action to all parts of the body; whence it follows that the exertion falling on special parts produces fatigue sooner than it would else have done; to which, in passing, let us add, that if constantly repeated, this exertion of special parts leads to a disproportionate development.[3] The quantity of exercise thus taken will be deficient, and that not merely in consequence of uneven distribution; for there will be a further deficiency in consequence of lack of interest. Even when not made repulsive, as they sometimes are, by being to all intents and purposes *lessons*, these monotonous

[1] *Vide* Cambon, *De France en Allemagne.*

[2] *Vide* Dubois-Reymond.

[3] *Vide* Lagrange, *L'Hygiène et l'Exercice*, part v., chap. ii. (Tr.)

movements are sure to become wearisome from the absence of amusement. Competition, it is true, serves as a stimulus; but it is not a lasting stimulus, like the enjoyment accompanying varied play. . . . Besides being inferior in respect of the *quantity* of muscular exertion which they secure, gymnastics are still more inferior in respect of the *quality*. This comparative want of enjoyment which we have named as a cause of early desistance from artificial exercises, is also a cause of inferiority in the effects they produce on the system. The common assumption, that so long as the amount of bodily action is the same, it matters not whether it be pleasurable or otherwise, is a grave mistake. An agreeable mental excitement must have a highly invigorating influence. See the effect produced on an invalid by good news, or by the visit of an old friend. Mark how careful medical men are to recommend lively society to debilitated patients. Remember how beneficial to health is the gratification produced by change of scene. The truth is that happiness is the most powerful of tonics. By accelerating the circulation of the blood, it facilitates the performance of every function, and so tends alike to increase health when it exists and to restore it when it has been lost. Hence the intrinsic superiority of play to gymnastics. The extreme interest felt by children in their games, and the riotous glee with which they carry on their rougher frolics, are of as much importance as the accompanying exertion. And, as not supplying these mental stimuli, gymnastics must be radically defective. Granting then, as we do, that formal exercises of the limbs are better than nothing—granting, further, that they may be used with advantage as supplementary aids; we yet

contend that they can never serve in place of exercises prompted by Nature. For girls, as well as boys, the sportive activities to which the instincts impel are essential to bodily welfare."[1]

In France we have gone too far in making gymnastics military. Under the influence of a certainly noble, but too technical idea, there is an increasing tendency to militarise education. What we may call *military* sport as opposed to games, says M. de Coubertin, will never make good citizens. The numerous sporting and gymnastic societies founded since the war form, we cannot deny, a valuable training-school in patriotism and discipline ; but, on the other hand, the military apparatus with which they are surrounded is likely to give rise to narrow views, and to stamp out that individual initiative, the development of which should have been their main object. The two or three aquatic societies at Paris are far more useful in this respect than the thirty-three gymnastic societies with their 3041 members in the twenty arrondissements of our metropolis.[2]

M. de Laprade asked with justifiable amazement how it is that as the Greeks are deemed worthy of imitation in their poetry, sculpture, philosophy, and politics, we have run counter to their system on the very point in which it was best—the physical education of the young. If we reduce the hours of work to eight, and allow an hour and a half for meals, there are still three hours and a half for recreation and two for gymnastics. Games must be once more placed in an impregnable and honourable position. After borrowing the boarding-school from the Jesuits, we

[1] Spencer, *Education*, pp. 171, 172. (Tr.)
[2] *L'Éducation en Angleterre.*

should be wrong not to borrow also its corrective, which they have had the wisdom to keep. In former days games and bodily exercise had, in fact, an important place in their colleges. The Jesuit schools are almost the only schools in which the children play and run as of old. "That is the education I want to borrow from the reverend fathers," says M. Legouvé, "the education of the legs."

Unfortunately it is useless to tell children to play; what indeed can they play at in playgrounds too small for one-sixth of their number? M. Dupanloup tells us that a boy said to him one day: "If only you knew, sir, how it bores us to amuse ourselves that way!" However, things are so; and now they even set a game (just like a lesson), and give tasks and punishments to children who do not take part in them, or who do not enter into them with sufficient zest. Which is certainly delightfully ingenuous. Hence, to avoid undeserved punishment, the children learn hypocrisy, and pretend to play till the supervision master has turned his back and they can renew the interrupted conversation.

At the lyceum, gymnastics take place during recreation hours, and as to each trapeze there are many boys, each pupil scarcely has a chance of turning more than one somersault per day, and of course none on Thursday and Sunday. "Why then," asks M. Coubertin, "is not the gymnasium always open, giving every boy an opportunity of exercising his biceps when he takes it into his head?"

In summer there are cold baths—lasting for two months; the rest of the year there are no baths. One college has a swimming bath—the lyceum at Vanves, a school remarkably well organised.

Unfortunately this bath, not being covered, is unused in winter. Take a corresponding instance in England. "At Harrow," says M. Coubertin, "each of the five hundred boys pays about twelve francs a year towards the bath: this is not dear." To return to games—the exercise *par excellence*—on the rare occasions on which French schoolboys have been left undisturbed to join in any game whatever, the zest with which they engaged in their amusement has been very noticeable.

What our schoolboys lack is not ardour for games, but sufficient space for their gambols. That is the real difficulty. Land is always dear in the towns; but, as has been remarked, nothing prevents provincial schools from taking the country itself as their playground. As for Paris, the State might well allot the necessary space on public ground, and the railway companies would issue tickets to squads from the lyceums at reduced fares.[1]

IV. *Manual Work in Schools.*

As in the case of games, manual labour has its hygienic effect, and serves the race in the individual. In England there are workshops everywhere, in which boys engage in different kinds of manual labour, carpentry and metallurgy, under the direction of a

[1] Since this book was written, M. Philippe Daryl has written an excellent book on games and the *Renaissance Physique*, and a society has been formed for the physical education of the young. The Minister has appointed a Commission to investigate the subject. A summary of the report of the Commission will be found in the *Journal of Education* for March 1891. (Tr.)

skilled workman.[1] This is the realisation of the wish of Jean-Jacques Rousseau ;[2] but the latter was guided in its expression by a sentiment of poetry and equality, whereas the English had merely "the practical side of the question in view—viz., the advantage of manual training in fashioning wood and iron." The young Americans who, in the University of Ithaca, read high mathematics, philosophy, or history, feel no shame at spending several hours of every day in honourably earning the necessary funds for the acquisition of that knowledge which may in the future lead them to the highest posts in the State. In 1870 about fifty of the students took advantage of the opportunity afforded them. The University paid £600 for the results of their work, and the professors noticed that those who devoted themselves to physical labour had profited by the lectures equally with the rest of their fellow-students. Three hours of manual labour were by no means adverse to mental work. In French primary schools manual training has been introduced, and the official instructions have advised the teachers that this new subject, clearly conceived apart from all professional prospects, ought pre-eminently to have as its object the giving to the child manual dexterity in the elementary use of tools, refinement of taste, and a knowledge of the material world around it.[3] "Manual labour," said Emerson, "is the study of the external world." By manual labour in the schools we usually understand the use of the principal tools in the working of iron

[1] This statement, it is to be hoped, will be literally true—after England has her *Intermediate Act.* (Tr.)

[2] *Émile*, bk. iii. (Tr.)

[3] *Vide* Compayré, *Organisation Pédagogique* (1891), pp 41, 178. (Tr.)

and wood. The real object of this work, as introduced in general education, is not to teach the child a given profession, but simply to develop his intellectual, æsthetic, and physical faculties, his knowledge of real things, and his skill. The carpenter's shop and the blacksmith's forge may be employed in their education without our wishing to turn out a carpenter or a blacksmith. Its result ought especially to be to familiarise the pupil with the properties of wood and iron, to accustom his eye and hand to work together, to accustom him to accurate measurements, in fact, to teach him to fashion an object by the aid of his tools and with delicate taste, with no help but a given design. The discipline of the workshop ought to be considered as complementary to that of the drawing-class; they are inseparable; one gives the knowledge of *form*, the other familiarises with *matter*. To suppose that the best teaching is what we get from books is what Spencer calls a "prejudice of the Middle Ages.'

As a matter of fact, all games become work when children wish to succeed in them. The first work that little children do is play. Play gives us an opportunity of judging their character and of developing it in the direction of perseverance and active energy. The ideal is the most frequent possible blending of work and play, of recreation and instruction.

The holidays ought to afford the opportunity for bodily exercise and for walking, especially in the mountains, where the air is pure. "Among them," says Tyndall, "I annually renew my lease of life, and restore the balance between mind and body which the purely intellectual discipline of London

is calculated to destroy."[1] With the object of amusing and occupying young people in a reasonable manner during two months' holiday, the French Alpine Club has organised *caravanes scolaires* with the following object:—"To bring together young people of the same age, to carry them up into the mountains face to face with the noblest sights of nature; by walks together, knapsack on back and iron-shod stick in hand, to prepare them for the trials of the year's voluntary military service, and even for the fatigues of war; to guarantee to them during the expedition the careful superintendence of an experienced master, and lessons in physics, geology, and botany, given in the open air and under the blue sky, during the halts; to amuse the mind without ceasing to instruct it; to elevate the mind and at the same time strengthen the body." Many large schools have already adopted this course, and have instituted travels during the long and short vacations. Beside being an admirable application of hygienic principles, there is underlying all this a moral and patriotic idea. Unfortunately these expeditions, being rather costly, are not within the reach of every purse.[2]

M. Cottinet conceived the idea of taking the children for a month into the country or to the seaside, without its costing their parents anything, thanks to voluntary subscriptions. He tells us that experience showed that this mere month in the

[1] *Vide* Preface to *Mountaineering*. (Tr.)

[2] The pupils at the École Normale Supérieure are encouraged to spend their vacations at various laboratories on the French coast—Roscoff, Banyuls, Concarneau, Wimereux, Saint-Waast, etc. *Vide* an interesting account from the pen of Dr. Houssay, *Revue Internationale de l'Enseignement*, April 1891. (Tr.)

country effected an heroic cure. "Two things have been ascertained with equal certainty: before the departure for the country the weight and chest measurement of these children was lamentably below the average for their age; on their return the proportion was reversed; they had gained five, ten, and even twenty times the normal increase during that period!"

The teacher in charge of the boys' colony at Bussang has introduced an improvement into the hygienic register of results obtained. This is an individual statement on the physical condition of each child. This statement is based upon the declarations of the parents and of the head-master of the child's school, and upon a thorough medical examination before leaving home. It is completed upon their return by a comparison of the results obtained. If the doctors attached to our primary schools would adopt and generalise this method, if they would introduce for each child a *health sheet*, to be revised monthly or quarterly, great progress would be made. We could keep an account of what the children gain in health and strength—the two elements of wealth to the individual and the race.

The reorganisation of physical education in France is all the more important because of the physical degeneration of the race. Heredity will, if we do not take care, eventually bring on progressive degeneration, and our intellect, far from gaining, will lose by it. Being an intellectual people, we have a superstitious belief in intellectual instruction. We must be cured of it and be convinced that a robust and productive man is much more important to the

race than a man who has furnished his memory with a mass of mostly useless knowledge.

V. *The Physical Progress of the Race, and the Growth of Population.*

With the question of heredity and education are closely connected the questions of physical fertility and population, in so far as they are subject to the will of man, his beliefs, ideas, and his real or apparent interests. This question is of capital importance to the French nation. I have already treated it fully elsewhere, but I must here again lay emphasis upon the momentous character of the danger which threatens us.

At the last census taken in Germany, December 1885, the population of the new Empire reached the total of 46,855,704. In 1870 the number on the same territory was only 40,816,249. If we take into account the number of emigrants and the birth-rate, the effective increase reaches the total of 535,444. So that in one year the population of the German Empire increases by more than half a million. Let us suppose this movement to continue with the proportional increase of the decennial period 1871 to 1880, and in barely sixty years the present population would be doubled. After the wars of the first Empire, in 1816, the countries of the Germanic Confederation, which now form part of United Germany, had a combined population of twenty-four millions. They will have a hundred and seventy millions at the end of the next century, with a density of 525 per square mile, as against 130 in 1880, without territorial increase.

Compared with the progress of the German Empire, the population of France is almost stationary, barely reaching the total of 37,321,186 from the census of 1881, as against 32,569,223 in 1831. There is only an annual increase of 0.2 per cent. in the interval of the two last quinquennial returns—that is to say, six or seven times less than the numerical increase of the Germans. This is a momentous fact, and well worthy of the attention not only of statisticians, but especially of statesmen anxious concerning the future; for when a nation ceases to advance, it lags behind, and allows political preponderance to pass into the hands of more vigorous races.

Mr. Myers, criticising the chapters relating to population in my *Irréligion de l'Avenir*, attributes to "modern French pessimism" a depressing influence upon the growth of population in France. I do not quite understand the sterilising influence thus attributed to pessimism. We may ask ourselves if pessimism, once become general in a nation, can of itself be the cause of infecundity. The Chinese and Japanese have been cradled from their infancy in the idea that all existence is nothing; moreover, they have no doctrine based upon immortality; Buddhism is on this point more negative than positive, but they breed none the less. This is because they have a family cult, like the ancient Jews, who also had no distinct belief in immortality.[1] In this problem what

[1] Is there even such a thing as "modern French pessimism"? I do not know whether it would not have been better to have said *modern pessimism in France*. No doubt pessimism did exist at a certain period, and still exists in a fashion in Parisian salons, where a number of used-up and dissipated rakes eagerly assume this serious name. But not a single philosopher, from Taine, Renouvier, Ravaisson, to Fouillée and Ribot, has defended pessimism. M. Zola, a novelist, a powerful genius, but

ought to particularly engage our interest is the mental attitude of the masses, especially of the peasants, who alone populate or depopulate a country.

Now the French peasant is anything but a pessimist. He, as it has been said, is remarkable for taking life on the best side. Moreover, the majority of the French nation have kept a basis of spiritualism, and if the peasant has often rejected religious dogmas, he regards with none the less awe the great problem of death; the most sceptical will tell you in his own simple language that burying a dog is not the same thing as burying a man; death in his opinion should be accompanied by words of hope, and therein he thinks lies the utility of the priest. And this state of things is a growth of the present day. But it is quite true to say that these principles —respect for death and wavering belief in immortality

with tendencies sombre and often obscene, has made it his business to summon up in his works more or less horrible images, but that is an individual case, and a matter of artistic rather than philosophic doctrine. No doubt M. Renan will be quoted to me, but that admirable writer, if he had his pessimistic days, appears now to be converted to optimism. Perhaps in his more confidential moods he will tell us that the truth lies between the two, and that we might well sustain the two theses successively. In poetry our greatest name, Victor Hugo, is anything but that of a pessimist, or even of a sceptic. He has always struggled with might and main against sceptical ideas. This is perhaps not the case with the great English poets, Byron and Shelley, with Heine in Germany, and Leopardi in Italy. The *poetae minores* may be quoted to me—Madame Ackermann, Baudelaire, and Richepin. But Madame Ackermann, who has written verses, pessimistic, well thought out but a trifle declamatory, and Baudelaire—who seems to have really had a craze—are only read by a limited circle. As for M. Richepin, how can we take that skilful verse-maker and rhetorician seriously? We read him in the same frame of mind as that in which we watch a very clever juggler. His pessimism is nothing but "matter" for French verses, as if it were the subject for Latin verses at the lyceum and École normale.

—taken in connection with the real failing of the French peasant (who is a very deliberate calculator, and growing more and more deliberate), are not enough to carry him forward to that practical and perhaps rather unexpected conclusion—not easily referable to its premises—"increase and multiply." From the moment that economical and social motives are placed in the first line, the question of fecundity becomes pre-eminently an object of economic and social reform, a matter of both moral and public education.

It is necessary in public education not to openly discuss the question of wilful infecundity, but to show the advantage to the race, the country, and the family of a large population. The numbers I have just given of the population of Germany are in themselves eloquent enough. Economic, moral, and social prejudices have yet to be dissipated in France—and the economists have had no small share in the dissemination of those prejudices. It is not difficult in the primary schools and lyceums, in the teaching of geography and political economy, to lay great weight on the element of power, intellectual wealth, and social selection, that is brought to a State by a large population. By holding meetings of soldiers, or workmen, or peasants, we have the opportunity of pointing out these advantages; there is no need whatever to enter into details that may outrage modest ears. All we have to do is to accustom every mind to think upon the future of the nation and of the race.

CHAPTER IV.

THE OBJECT AND METHOD OF INTELLECTUAL EDUCATION.

I. The object and method of intellectual education.
II. Methods of teaching—Cultivation of attention—Intuition and action—Memory—Prejudices with respect to cultivation of the memory.
III. Choice of subjects—Distinction between really useful knowledge and mere accomplishments.

I. *The Object and Method of Intellectual Education.*

The education of childhood and early youth is not and ought not to be pursued except for its own sake. If we start from the principle that every human faculty exists in the brain of a child, the object of education will be to favour the normal, complete, and harmonious development of each and all of those faculties, which, as some one has said, will soon enough have their equilibrium disturbed by life itself.

It is of the utmost importance that at the moment of taking a decisive step in life a young man should be well aware of what he is and all that he is, in order that he may not follow one path more than another, or abandon himself to the dominant faculty, if he has one, without, so to speak, full knowledge of the reason why. Besides, from the point of view of that very faculty, the most favourable condition for its dominance is that it should feel itself sustained,

or as it were furthered, by every other faculty. In a word, education prepares the soil; the seed will be sown at a later period when the time arrives for professional education; but for the seed to rise, the ground as a whole must be prepared, for who can tell the exact spot where it will germinate?

In education the first place must be awarded to the common interests of the individual and the species, to what can develop simultaneously the intensity and expansion of life. We must not consider the individual solely in himself, as a point in space, in abstraction from the moral and intellectual atmosphere in which he is completely immersed, and which is perhaps, equally with the terrestrial atmosphere, the very condition of his being. If the first necessity is to live, surely the second is to obtain the means of so doing —*i.e.*, of adapting himself to his environment. Now, man being made to live among men, we cannot go too far in the process of moulding the child for social life, in counteracting his egoistic instincts, when they first unfold, by the development of altruistic and social instincts, which ought to play some day so important a part in his individual life. Now, if pre-eminent importance is attached to the interests common to the individual and the species, what are those interests? The preservation of the individual is certainly indispensable to the species, and education ought to tend to ensure the maintenance, the development, and energy of physical life, because upon it depends the hereditary vigour of the race. It is therefore, one may say, the primary necessity, the basis of all others; hence the importance of gymnastics and hygiene so fully appreciated by the Greeks, and so neglected by us. But here a possible antinomy may be pointed

out between interests of the body and those of intellectual work in a certain select class. The theory of evolution itself admits that the progress of the species is accomplished at the expense of a certain number of individuals. To produce a Pascal or a Newton we must make up our minds to a certain bodily wear and tear resulting from study. But that is, on the whole, the exception, and the good health of the race, its vigour and physical energy, are a preliminary condition for the production of exceptional genius.

After physical development, or even before if required, we should place moral development, which is the supreme end of the individual, and the essential condition of social existence. We must fully recognise that in our system of education we take as little care of moral as of physical development ; our pupils become moral or immoral, if left to themselves, just as they are left to themselves to become healthy or unhealthy. No use is made of systematic means, no *method* is employed from the early years of the child in moralisation ; we give instruction and trust to the moral virtue of instruction. Now this virtue is not always as great as we imagine, at least in the case of the object of *knowledge* properly so called. Arithmetic, physics, and chemistry have no power to "form the heart."

Further, we ought to place æsthetic before intellectual and scientific instruction, because the beautiful lies nearest to the good, and because æsthetics, art, literature, and what have been so well called the humanities, are the least indirect influences making for morality. Intellectual and scientific instruction properly so called must therefore take up an inferior position to the others.

In intellectual instruction we may have three ends in view: either to elevate the mind and to make it look at everything from a higher standpoint, or to apply it to some practical end, such as a trade, bread-winning, etc.; or simply to furnish it, like a drawing-room, with splendid hangings, Chinese pottery, and Japanese lacquer-work. The latter end is most often aimed at nowadays; instruction is becoming a matter of dress—coquetry in the young girl and vanity in the young man. This is a grievous deviation from the right path. The true object of intellectual education is to instil, with the least possible expenditure of energy, the greatest number of generous and fruitful ideas. Once the brain of each individual has been moulded for good, heredity will fix a greater cerebral capacity in the race. Education and heredity, here as elsewhere, will be complementary.

II. *Methods of Teaching.*

Psychologists have shown that the physical expression of the sentiments, imitated by reflection, engenders the sentiments themselves, and we have seen that these sentiments are propagated by suggestion. Thus it is easy for a master who takes pleasure in the company of his pupils to communicate his pleasure to them. The interest that he manifests in what he says or does, or in the work that he makes them do, is communicated to all by sympathy. Silence leads by suggestion to silence. The example of order forms habits of order. We cannot help working when every one is working around

us. The nerves are excited by the attitude of those at work. Eventually they reach that point at which inaction becomes suffering. As Herbart says, "there is no well-behaved child who will refuse to work when all around him are full of emulation and eagerness in their work."

It is therefore less difficult than is generally believed to produce in the young child a love of work. Besides, the slight distaste that he sometimes shows for it at first is rather due to a want of habit and method than to idleness properly so called. We should, to begin with, develop the faculty of observation by *object lessons:* concrete facts should be presented before abstract truths; we should try to make the acquirement of knowledge pleasurable. The common characteristic of modern methods lies in the endeavour to conform education to the natural progress of evolution in the child; which, however, does not at all imply a system of complete *laissez-faire*, the child wanting the intellectual nourishment prepared for it and presented to it in a certain order. The general principles of education which, according to Spencer, may be regarded as established, are the following:—1st. The mind proceeds from the simple to the complex. 2nd. The mind advances from the indefinite to the definite. 3rd. The individual development of the child reproduces the phases of the historic development of mankind. 4th. The process of self-development should be encouraged to the uttermost. 5th. Intellectual activity is in itself pleasurable, and well-directed study ought to be productive of interest and not distaste. In a word, the acquisition of knowledge ought to be the result of the spontaneous activity of the child; the normal

exercise of the faculties being in itself pleasurable, study, if well directed, should be interesting.

However, here again we must avoid excess. To change work into a mere game, to instruct in play, is a bad preparation for life. Is life a game? Kant was right when he said—"It is a fatal thing to accustom the child to look at everything as a game. . . . It is of the utmost importance to teach children to work; for man is the only animal compelled to work." Spencer himself takes as his higher criterion of the good method, pleasurable excitement in the child;—interest and admiration certainly, but pleasure, amusement? . . . Far from subordinating work to pleasure, the child must find its pleasure in work itself, in the exercise of its faculties and in the sense of duty accomplished. Life is nothing but *work*, submission to *rules;* do not represent it to children as a game of bowls or ninepins: this would have a demoralising effect, and instead of making men, would send out into society mere overgrown children. The man who can do nothing but play, and judges everything by the pleasure it gives him, is an egoist and an idle fellow.

Again, play itself demands a certain amount of work. For we must not forget that the pleasure of play rapidly becomes interest in difficulties to be overcome, as we may see from the fact that immediately a game has ceased to be difficult it has very often ceased to amuse. We have therefore simply to bring the child to apply to a serious task the whole attention, perseverance, and continuity in the thread of his ideas, which he has naturally and gradually brought to bear upon his games. Finally, to teach him to interest himself in everything, is to teach him

to persevere—*i.e.*, to be familiar with exertion, and to exercise will: it is to moralise him as much as to instruct him.

The cultivation of the attention is the secret of all intellectual training. Attention produces the more or less systematic grouping of representations and ideas, so that not one remains isolated within us, but each rather attracts and awakens similar and logically or æsthetically analogous images and ideas. Inattention, on the other hand, consists in the abortive birth of each representation which passes through us and dies away without having given rise to a permanent grouping. Attention, therefore, is as much a question of method as of natural intellectual power. To have the habit of attention is simply to have the habit of not permitting an important state of consciousness to miscarry without having linked itself to others, without having created a kind of psychic system.[1]

Attention is order and earnestness of thought. The woof of our ideas must not be broken; we must be like the weaver who works in the broken thread. There are minds, it is true, in which the thread is constantly being broken, but in almost every case the threads may be joined with a little effort. It is a question of will, and attention thus appears to be elementary morality; in fact it is the morality of the intellect, the art of conduct in the inward sphere of action. Attention is only perseverance applied to something. Accordingly, before the intellectual faculties are developed in the child, it is of importance to encourage the habit of perseverance, which in the sequel will be

[1] *Vide* Paulhan, *Revue Scientifique*, 28th May 1887.

manifested in the sphere of ideas. The child must have already acquired a certain sequence in its actions and in its duties before it acquires that sequence later on in its thoughts. "He was only unhappy when he was thinking," says Voltaire of Candide; and he adds, "it is so with most men." Would it, then, be supreme happiness not to think? No! Supreme happiness consists in being master of one's thoughts, and in knowing how to direct them, which is the most difficult thing in the world. We get the habit of being superficial as we get any other habit; it is merely a lack of attention and courage; a fault as much moral as intellectual; a fault which may be corrected by the power of the will.

Attention directed towards an end produces method. It is a law that any work whatever tends to be regular and methodic in proportion as it exacts a larger expenditure of energy—a greater tension; now intellectual work exacts from the organism an expenditure not only the most costly, but the slowest to be repaired: it is therefore the work that should be performed in the most regular and methodic fashion. As of all our activities it is the least mechanical, and the furthest removed from reflex actions, it should, by way of compensation, be accomplished in more regular hours; it should have the characteristics of a normal exercise of the activity, which daily finds in the internal budget the income corresponding to the required outlay. All derangement in intellectual work kills the individual, and has a still more fatal effect upon his descendants. Hence the dangers of the artist's life, which is so often a Bohemian existence. The most productive intellects in science, and even in art, have often been those whose work was as regular

as that of a machine, with the necessary intervals for sufficient rest.

As it is necessary to develop the attention, especially by requiring continuity of thought, so it is of equal importance not to overwork it. The best type of the way in which the very young child ought to learn many things without fatigue, is the way in which it learns its mother-tongue, only listening to the continuous sound of the words uttered around it when it is so disposed; letting the words enter its head rather than placing them there; letting them be driven into its brain like nails by repeated impact. The attention is not developed if we fatigue it, for in that case there is injury to the general state of health. A child passes a more or less lengthy period in learning a lesson; we think it is attentive, and it fancies itself that it is; but in reality it is learning it by the help of only a few moments of real attention: the rest is lost time. The ideal of good education is to increase the intensity of attention, and to diminish the time that is given neither to attention nor to complete and thoroughly healthy repose; it is intensive cultivation, the ground not being allowed to lie fallow. When we demand too long an effort of attention from the child, we exhaust it unprofitably. But by keeping it in the society of intellectual people whose thoughts are connected, we may accustom the child not to range from one subject to another, and we may keep its mind within a circle of given ideas, without allowing it to fly off suddenly at a tangent. To dig the earth at any fixed point it is unnecessary to give fifty blows per minute with the pick; we may take our time over it; the essential thing is that each blow shall be directed to the right

spot. The deviation of attention being always more or less proportional to the curiosity aroused, we can increase very largely the duration of attention by widening the sphere of curiosity. Just as we make the attention more permanent, and thus ensure its exercise, we strengthen immensely by that exercise the faculty of attention itself. The duration of attention is, in fact, the measure of its power, and is one of the means of its production.

The method of teaching by object lessons has been adopted in our schools; but to make the children see things is not all; we must make them understand, reason, and act; the eyes ought not to be a convenient substitute for the intellect, but a factor in its development. There is a better method than teaching by sight, and that is teaching by action: to make the children do for themselves what we are at present contented with showing them. This method appears much preferable; action is a concrete reasoning, which simultaneously engraves the ideas in the mind and in the fingers. In America, instead of making the child understand on paper the working of a steam engine, he is given a miniature model; he has to take it to pieces, put it together again, and thus make the machine himself. Tyndall, the eminent English physicist, has written a delightful volume on electricity, to show how a child of ordinary intelligence may construct for itself, at the cost of a few shillings, most of the ordinary apparatus employed in electrical experiments. The initiative of the child must be cultivated by every possible means. It must be done even in class by oral and written exercises, by summaries, written or *viva voce*, etc. The maieutic is the

best method of education whenever it is possible.[1] What is essential, is to provoke the desire for action and activity itself. Everywhere and always we see among us the triumph of mnemotechnical methods—the false knowledge so neatly termed *psittacism* by Leibnitz. What is the end of man? To be a man, in its true and full sense; to bring into play all that is in human nature. What ways and means have we for this purpose? Action. Thus wrote Voltaire in 1727, renewing the philosophy of energy and action, the fundamental doctrine of antiquity, the tradition of Greece. The same idea, pointed out by Locke, is to be found throughout that eminently English book, *Robinson Crusoe.* It is reproduced in the *Émile.* Michelet is also an enthusiast for action. We must even reconstruct man, and no longer mutilate him by exaggerating this or that part, by giving undue prominence to this or that faculty, and suppressing others; we must not destroy his active faculties, we must bring back life and movement to the class-room. The passivity, inertia, and silence to which children

[1] "My father gently and patiently accustomed me to see and think for myself, instead of thrusting upon me his own ideas, which my docile and submissive temperament would have blindly accepted. Never have I seen a more modest and less dogmatic teacher. He asserted, so to speak, nothing; and was content to draw my attention to things, without telling me what he knew about them. When we went into a wood, for instance, he was giving me a lesson at every step, and yet I never felt I was at school. Thus I insensibly acquired the habit of studying strata wherever an outcrop had exposed them. I knew the names of animals and plants, classed them in a somewhat tentative way, and he let me alone, checking me only by a word or a smile when I went astray. He had the gift of looking at everything from the practical point of view; he carefully distinguished the useful from the harmful animals, and I early learned to respect the mole, the toad, the bat, the snake, the insectivorous birds, and all my misunderstood friends."—Edmond About, *Le Roman d'un brave homme.*

are nowadays condemned, are the tortures of the school-room. "*To be continually receiving and never to give!* Life is just the opposite of this. Life eagerly receives, but is none the less happy to expand and give, and there is no middle course." Make the children more active in school, make them as far as possible their own instructors.

It is often asked if in education we should proceed from the concrete to the abstract, from the particular to the general, from the empiric to the rational. Yes! in the case of young children. But this method must not be exaggerated or extended beyond due limits, under the pretext that it represents—1st, the natural evolution of the mind; 2nd, the historical evolution of the sciences themselves. In the first place, children generalise very early, and from the first are given to abstract deduction. They are simplifiers, and sometimes thoroughgoing reasoners. The child has an essentially logical mind; for instance, when it has done a thing once, it wants to begin again, and under precisely the same conditions. Naturally capricious, it refuses to sanction caprice in others. This is because it has had no experience of varying conditions and results. And adults are like children; they are reasoners with a bias to simplicity, often incapable of seeing three or four data simultaneously in a political or moral problem.

Accordingly, I think that not merely a place, but the first place, must be awarded to a rational and synthetic method, when it seems peculiarly adapted to the work in hand; for instance, in grammar or logic. But in most cases it is possible to combine both methods; and whenever we are teaching the sciences of observation, it is important to make the children

observe for themselves, and to employ the teaching of action.

Once the mind is capable of receiving and acquiring, we have to determine the best form of intellectual food, and the quality and quantity of knowledge to be acquired. There is a vast difference between the ingestion and digestion of food, between "cramming the memory" and assimilation. The choice of intellectual food must be regulated by the nature of the brain. We have to introduce the maximum of precious elements into intellectual circulation with the minimum of waste.

Some of the prejudices of the older school of psychology are still to be found in education; the memory is far too often represented as a simple, unique, and detached faculty. The phrases, *to exercise*, *to develop the memory*, are of common occurrence; but, as a matter of fact, we can only exercise and develop particular forms of memory—memory for words, figures, etc. Memory is a habit, and memory in general is no more developed by cramming the child's brain with masses of words and figures, than habit in general is developed by contracting the habit of leaping with the feet together, or of playing cup and ball. When we force a child to remember trivial details, we do not strengthen, we really weaken its memory, because these useless details take the place in his brain of more important ideas. We know that the amount of knowledge which can find room in a human brain of average capacity is after all limited, that one group of subjects may expel another; for instance, the pursuit of words is incompatible with the pursuit of ideas—frivolities are incompatible with graver matters. Not only is it harmful to store the

brain with rubbish, which, so to speak, empties it and does not fill it, but we *ipso facto* create a facility of adaptation with respect to those matters, and make mind and memory alike unfitted for the reception of really useful and serious ideas. The memory being nothing but a faculty of adaptation, it is deformed instead of being exercised, if we adapt it to knowledge of inferior rank. Besides, facility in the memory is one thing, tenacity another. The abuse of competitions, examinations, curricula fixing a total of knowledge to be acquired by a certain date, far from tending to develop, tends rather to destroy the tenacity of the memory. We all know the feeling of intellectual relief after an examination, when we feel the brain freed from all that was so hastily thrown into it, when we feel it regain its equilibrium, and forget. An examination, for most pupils, is nothing but permission to forget. A diploma is often only permission to become ignorant again; and this healthy ignorance, which returns by degrees after the day of trial, is often the deeper in proportion as the boy has undergone more mental strain in mustering all his knowledge by a fixed date, because of the nervous exhaustion necessarily consequent upon it.

The main duty of instruction is to give to the mind a framework whereon to group the facts and ideas given us in the sequel by reading and experience. Facts and ideas have a real and useful influence over the mind only when the mind systematises and co-ordinates them with other facts and ideas as they are produced; if the mind does not do this, they will remain inert, and will be as if they did not exist. One of the principles of education is the doctrine of the powerlessness of the educator to give more than

a general direction to thought and conduct. The most complete system of instruction only furnishes knowledge necessarily insufficient, which must be in a measure swallowed up in the multitude of experiences which compose a life. We must therefore distinguish between the merely ornamental and the necessary form of knowledge. A serious mistake is always made in the classification of these subjects. History, for instance, is in great part ornamental; hygiene is absolutely necessary. All children of intellectual endowments below the average must be kept from the study of merely ornamental subjects. The higher part of education is already overburdened. Preliminary examinations ought to lop off the branches which seem fated to bear no fruit; this would be an economy of human sap.

Among the ornamental subjects I by no means include the lofty truths and speculative principles of science, the beauties of literature, and the arts; this so-called luxury is in my opinion necessary, because it forms the only means of elevating the mind, and of exerting a moral influence over it by the disinterested love of the good and beautiful. It is the falsely called useful and necessary subjects—the application of science, and the dry details of history, for instance—that are superfluous. We must therefore distinguish between knowledge reputed useless and knowledge of which no use can be made. The distinction is of moment, because instruction ought certainly to be raised far above the merely utilitarian and humdrum; and, on the other hand, it ought to avoid with equal care cramming the mind with knowledge out of proportion to the faculty possessed of bringing it into play.

The educator should, in the first place, lay down this general rule—that all knowledge would be good for a mind with unlimited power of assimilation; in the second place, that all knowledge, every time it is not assimilated, is an added burden to the mind, and represents useless expenditure of energy; and thirdly, that to determine the number of subjects we wish to pour into a mind, we must consider not merely their nature, but the relation existing between them, and the capacity of the mind into which we wish to introduce them.

The practical conclusion to be drawn from these general theses is, that if every man ought to be provided with a certain average measure of knowledge on arriving at ripened years, this total of knowledge ought to be, not utilitarian in the lower sense of the word, but available for the mind—*i.e.*, capable of being assimilated; that we must not wish to widen beyond due bounds the source of the knowledge given to all, because the fruitless mental work done in this way would be so much pure loss to the bodily powers; and that the best general education is that which leaves to the individual the widest latitude to complete what he has learned, according as he is capable of turning it to good purpose.

One essential thing we must teach the child is to read methodically, and to assimilate what it reads. We must therefore distinguish—1st, the passages essential from the moral and æsthetic point of view; 2nd, the facts or ideas essential from the scientific point of view. Intellectual education, faintly sketched in during early years, is mainly continued by reading—sometimes by the mere reading of the newspapers and of novels. Moreover, a mass of useful knowledge

might be drawn from even the papers, with a little discrimination.

Perhaps the most imperative duty is to inculcate what is less a fact or idea than a sentiment—viz., the love of learning; and to this sentiment should be added the love of deep study, of probing a thing to its depths—in order that the mind may not skim the surface of things, and grasp nothing. This desire for thorough work is one and the same thing with perfect sincerity, the desire of finding the truth, for a little experience forces us to recognise that the truth is never near the surface, and that we must always dig and labour before reaching it.

It should be noticed that the subjects most difficult for the child to acquire are most often those between which it is impossible to establish a logical connection, and which have nothing to do with the reasoning powers—unimportant dates, geographical names of no use even if known, and trivial historical facts. Such knowledge fatigues the brain when it is acquired, and instead of forming it by the introduction of habits of reasoning, tends rather to deform it; it is intellectual energy uselessly dissipated, merely futile work. Erudition is therefore one of the enemies of real knowledge. And by erudition I mean, not the knowledge of Greek or Sanscrit, but of an ever-accumulating host of details in which the mind is exhausted and lost. To know in their chronological order the names of the Merovingians, with the dates of their births and deaths, is erudition; to remember in their order the great streams under the name of La Roya which, according to our text-books, separate France from Italy (an inaccurate statement), is erudition.

The best education is that which is not merely instructive but *suggestive*, and consequently *directive;* which introduces into the brain not only knowledge susceptible of "double use," as Socrates says, but habits of acting linked with habits of high thinking. In other words, we must not only give a diffuse instruction creating opposed tendencies which divide the mind, but a *co-ordinated* instruction, *concentrated* about a point of reference, and issuing in practical suggestions.

Descartes laid down the following rules for his own guidance, and asserted that he always followed them in his studies:—

1st. Never to allot more than a few hours per day to thought which occupies the imagination (concrete sciences and arts); 2nd, to give only a few hours per year to work requiring the understanding alone (mathematics and physics); 3rd, to give all the rest of his time to relaxation for the senses, rest for the mind, and exercise for the body.

Descartes includes all "serious conversation" among exercises of the imagination, and also everything absorbing the attention; this accounts for his withdrawing to the country. Leibnitz, reproducing the rules of Descartes, said: "So far from our mental powers being sharpened by excess of study, on the contrary, they are blunted."

Will a few hours devoted to study every day be enough for what we ought to know? They will, answers a contemporary philosopher,[1] if, on the one hand, the well-controlled mind has reserved all its resources for the time devoted to study, and if, on the other hand, we limit instruction to subjects it is

[1] M. Ravaisson.

really important we should know. "The great truths in science, the great models in literature and arts, may be reduced, for the purposes of education, to a few which will be all the more striking in their effect."

CHAPTER V.

THE SCHOOL.

I. *The Inadequacy and Dangers of purely Intellectual Education.*—Results of statistics—Necessity of moral instruction.

II. *Possibility of Teaching Ethics Methodically.*—The teaching of ethics in connection with creeds and "natural religion"—The necessity of referring to the State the control of civic and moral instruction.

III. *Moral Discipline in the Primary School.*—In Tolstoï's anarchic schools—Spencer's method of natural reactions—Its inadequacy.

IV. *Necessity for the Teaching of Civic Duties in all stages of Instruction.*

V. *Instruction in Æsthetics.*

VI. *Intellectual Education.*

I. *The Inadequacy and Dangers of purely Intellectual Education.*

Primary instruction is intended for the masses constituting the very foundation of the nation (its hereditary foundation), with its good and bad qualities. This instruction has therefore to act favourably upon the deeply-lying strata of the nation. Now, as Montesquieu says, it is here especially that we want heads "well formed," not "well filled"; we must also have, and this is of grave importance, hearts in the right place.

It was ascertained from judicial statistics at the beginning of the century that out of a hundred prisoners only thirty-nine per cent. had ever received any instruction. In the face of such a proportion of illiterates, it was supposed that ignorance was the

main cause of crime, and an effort was made to extend primary instruction. At the present moment instruction is obligatory, and the result is simply reversed ; out of a hundred prisoners thirty per cent. are illiterate. We have therefore been compelled to recognise that the greater or less proportion of ignorant people among criminals is due to the greater or less ignorance of the masses, and not to the demoralising effect of ignorance alone. Some authors, M. Tarde among the number, think that higher instruction alone is powerful enough to raise the mind to that point at which the idea of crime can no longer be produced. It has been retorted that if, in the records of crime, we find very few really well-educated people, it is because in these days to obtain real instruction we must already have some resources of our own ; now, with easy circumstances, many temptations disappear ; further, higher instruction constitutes in itself resources—a livelihood. If the same scientific instruction were given to all, statistics would probably show a large number of clever, well-educated, and therefore more dangerous criminals. We may also add that fifty years ago only two per cent. of criminals had received higher instruction ; the proportion has now risen to four per cent., and no doubt will increase. As Socrates pointed out, the way to prevent instruction from becoming a weapon in the hands of crime, would be to allot a far larger share in education to moral and æsthetic than to intellectual and scientific instruction ; not to conceive the latter without the former, not to think that the knowledge of facts and truths of a positive order can supply the place of sentiment in a good education.[1]

[1] Ellis, *The Criminal*, pp. 299, 300. (Tr.)

The abuse of too purely intellectual an instruction is that, far from always exercising a moralising influence, it often only results in the increase of the unclassed. If the child, when he reaches manhood, has not attained the object of his ambition, he shifts the blame on to society, and accuses its bad organisation. From that time forward he will look at everything from the worst point of view, and will hate every one. If he is feeble and exhausted, he will enter what has been called "The regiment of the resigned";[1] of those who, too weak to take an initiative in revolt, have bowed the head, but who always are ready to help those who have revolted, when the latter have begun to rebel. If the latter do evil, the former certainly will not prevent them; both have an interest in revolutions, and those who do not dare to bell the cat, will certainly not be the men to untie the bell.[2] At the beginning of his short reign, the Emperor Frederick III. wrote to Prince Bismarck—"I consider that the question of the attention to be given to the young is intimately connected with all social

[1] *Vide* M. de Coubertin.

[2] A plan for the transformation of the *real* schools has been laid before the Council of the Russian Empire. These schools were based upon those of Germany for modern instruction. They are still found to have either too much or too little of the classical element in them; they are condemned for forming half-trained men, whose training has been both too literary and too unpractical to enable them to face industrial or commercial life with much chance of success. Hence it is felt that these schools should be turned into purely technical schools. The training will be such as to turn out good foremen and heads of workshops, who will have received such a general culture and technical instruction as to enable them to at once obtain a situation in a manufacturing or commercial business, and who will not run the risk of being driven into the ranks of the unclassed—the open sore of modern communities.

questions. A higher education ought to be made accessible to more and more extended strata; but half-instruction will have to be avoided, lest it create grave dangers, and give rise to claims on life which the economic forces of the nation will be unable to satisfy. We must equally avoid trying to merely and exclusively increase the amount of instruction, lest we thereby neglect our educative mission." And in fact, moral and civic training, having the most educative influence, must be awarded the first rank.

II. *Possibility of Teaching Ethics Methodically.*

If instruction ought to be pre-eminently moral, is it possible to teach ethics methodically? Ethics, in my opinion, is partly positive and partly conjectural. There is on its positive side a fundamental theorem which ought, I think, to be also the foundation of moral instruction. This theorem, of which I have elsewhere shown the importance, is that of the *correlation between the intensity of life and its expansion towards others.* It is what I have called moral fecundity. In virtue of its very intensity, we have seen that life tends to overflow, expand, and expend itself, and by its expenditure to increase. For, once again, it is a law of life, only to maintain itself by self-sacrifice, only to be enriched by lavishing its wealth. This law is true even in the case of physical life, which is the most egoistic, the most limited, and apparently the most self-centred. All the physical functions must end in this common term—expenditure, movement outwards, expansion. The nourishment we have accumulated tends to awaken the need of

propagating our being in another being; respiration and circulation require movement and exercise—that is to say, external expenditure; all robust and intense life needs action. When we come to psychical life, the need of expansion is still more keenly felt, and in this domain true expansion is that which takes place *towards* others, or, still better, *for* others. The harmony of forces is, in fact, the only or the best means of preserving their intensity. Every conflict is an annihilation of forces; to exercise one's activity against others is eventually to exhaust it, and to impoverish one's own being; it is robbing one's happiness to squander it on ambition. The highest activity is that which is exercised not only in agreement with others, but also out of regard for others. From all theories on the principles of ethics, which alone are really open to serious controversy, we can even now extract a certain basis of common ideas, and make of that basis a subject of teaching or popular instruction. All moral theories, even those most sceptical or egoistic in their origin, have eventually issued in ascertaining this fact, that the individual cannot live only of himself and for himself, that egoism is a contraction of the sphere of our activity, and that it eventually impoverishes and injures that activity. The sentiment which is at the bottom of all human morality is always that of generosity. Men who are generous and philanthropic make incarnate in themselves the systems of Epicurus and of Bentham.[1] This I have shown elsewhere. It is this spirit of generosity inherent in all morality that a moralist always can and ought to try to set free and compel to penetrate the mind of his audience.

[1] *Vide* my *Morale d'Epicure* and my *Morale Anglaise Contemporaine*.

It is objected that if the propagation and teaching of moral ideas become independent of creeds they will lack a final element of sovereign power over all pious minds, namely, the idea of punishment after death, or at any rate the certainty of that punishment. My answer is that precisely what is purest in the moral sentiment is doing good for its own sake. And if the reply is made that it is a chimerical ideal, being so elevated, I retort that the power of the ideal to realise itself will become greater in proportion as the ideal is placed higher in the society of the future.[1] It is supposed that the most elevated ideas are the least easy to propagate among the masses: this is an error to which the future will more and more unmistakably give the lie.[2] The Chinese, who are very acute observers, have the following proverb:—"He who finds pleasure in vice and pain in virtue, is still a novice in both." The object of moral education is to make children find their pleasure in virtue and their pain in vice. We must not always be teaching the *utility* of the good, and forget its *beauty*, which causes what is good to spontaneously afford immediate enjoyment. The utilitarian school, wishing to base moral education on the imitation of examples, on the consideration of expediency, on the benefits of altruism, decreases the really moral spirit in children by robbing them of the power of doing good for its own sake, independently of what others have done, do, or will do. Kant seemed to foresee the application of English psychology to English pedagogy: trying to discover why ethical treatises, even those showing by most examples the happy effects of

[1] Vide *L'Esquisse d'une Morale*, pp. 236, 237.

[2] *Vide* my *L'Irréligion de l'Avenir*, p. 352.

good, have nevertheless so little influence; he asked if this inefficiency is not due to the admixture of the ideal of the good with foreign elements. "The moralists," he says, "have never undertaken to reduce their concepts to the simplest expression; searching on every side, with the best intentions in the world, for emotional motives to moral good, they, by so doing, spoil the remedy they wish to be efficacious. In fact, the commonest observation shows that if we have presented to us an act of probity, free from all interested views in this world or another—an act even involving struggle against the hardships of poverty or the seductions of wealth; and if, on the other hand, we are shown a precisely similar act, in which foreign motives, however slightly, have concurred, the former leaves the latter very far behind it, and throws it into the shade; it elevates the mind, and inspires in it the desire to go and do likewise. Children experience this sentiment as soon as they can reason, and duty should never be inculcated in any other way. The power of morality over the human heart is in proportion to the purity of outline with which it is presented." But is not this a matter of mere logic? A happy issue to a series of events implies the possibility of the contrary, which, moreover, is much more probable; the mere good sense of the child will teach him this. The attempted proof that the best way of reaching utilitarian happiness is to abandon oneself to altruistic sentiments is not only always subject to dispute, but it is an appeal to the egoistic sentiments themselves to form a judgment on a cause not within their scope, disinterestedness, to wit; it is to forget that the sentiments can only be judged by their peers.

Stimulate generosity alone, when you want a burst of generosity, and you will be understood; the most elevated sentiments, at least those momentarily the strongest, will stifle all others, and the eager trembling of sublime emotion will be produced.

I have elsewhere attempted to show that different forms of religion are not eternal, that they have a mythical, dogmatic, ceremonial side, which is destined to disappear. In the ideal state of *religious anomia* towards which we seem to be moving, all tendencies of temperament or of race will still find satisfaction, and in this religion of the future the "worship of the ideal" must find its place. On our part, we by no means wish to destroy; we even believe that, absolutely speaking, destruction cannot ensue. In human thought and in nature alike, all destruction is but transformation. The ideal irreligion, though to us it is a negation of the dogmas and superstitions of the day, is in no way exclusive of renewed religious sentiment, — identical with that sentiment which always corresponds in us to all free speculation on the universe, identical with the philosophical sentiment itself. Dogma, free-thought, religion, irreligion,—these terms are only approximations, and there are in things none of those breaches of continuity, hiatus, and artificial antitheses, which we introduce into words. I think therefore that religions of the day are destined to disappear by a dissolution very slow, but none the less sure; but I also think that man, whatever be his race or class, will always philosophise on the world and on the great cosmical society. He will philosophise, sometimes naïvely, sometimes deeply, as his education increases and according to the individual tendencies of his

mind, tendencies which will go on freeing themselves and ever be made stronger by the very progress of education.

If this be so, we cannot admit that war should be proclaimed against sectarian instruction, for it has its moral utility in the present state of the human mind. It constitutes one of the elements which prevent the disaggregation of the moral edifice, and anything of the nature of a unifying force must not be contemned, when we take into account the individualistic and even anarchic tendencies of our democrats.

The public schools in France cannot be sectarian, but a philosophic doctrine like the broad theism taught in our schools is not a confession of faith, nor a dogma; it is an exposition of philosophical opinions conformable to the traditions of the majority. On the other hand, atheism is not a dogma or confession, which may have the right to exclude all contrary opinions as an insult to, or infringement of, liberty of conscience. Hence no confession of faith is assailed by any lay, moral, or philosophical teaching if appropriate to the mental state of the children. Besides, anti-religious fanaticism offers grave dangers, just as religious fanaticism does; therefore the State, to preserve unharmed the children of both, ought to keep to the high road of primary instruction. The State cannot be, and ought not to be, uninterested in these questions. As Michelet truly said, the first duty of politics is education; the second, education; the third, education. State intervention alone can prevent the youth of the country from being brought up in a strict "individualism"; it alone can maintain the best national traditions, and oppose

every manifestly patriotic or immoral education. In a word, the duty of the State is to transmit to each new generation the heritage handed on by the past, the literary, scientific, and artistic treasures amassed by our ancestors at the cost of so much effort. "Continuity of national tradition is the true condition of progress, the inexhaustible fount of an enlightened and fertile patriotism. Now it is to be feared that if national education be left to private initiative, prejudices of a low utilitarianism, the want of an horizon sufficiently wide, with many other causes, will help to break the bond between us and the glorious past. The only way to avoid the gropings, faults, and blunders of our predecessors is to study them. No progress can be made if the lessons of the past are neglected."[1] The State ought, moreover, to keep the general level of education up to a certain standard, to watch over the maintenance of good and strong national traditions, and to take the necessary steps to ensure that whatever there is good and beautiful in our modern civilisation may be transmitted to future generations.

There is a tendency in the present day to substitute the commune for the State, and to award to the former at its own discretion the power of entire direction of all schools within its jurisdiction. But to this the answer has been justly made, that most of the French communes, even if thoroughly reformed, would be incapable of supplying the basis of genuine instruction. In most cases they would hand over the education of youth, either to intelligent but inexperienced innovators, or to charlatans; in some cases to religious bodies, in others to anti-religious

[1] *L'Éducation selon Herbart* (Roerich).

sects, according to the fashion of the day or the impulse of the moment. Those communes which would confine themselves simply to school routine would be least exposed to delusions. The youth of a country is its pride and its wealth: we cannot hand it over to those who wish to take it as an experiment *in anima vili*, or as a political weapon. The State cannot tolerate the future of a whole generation being a subject for debate to any political party whatever; its duty is to maintain the lofty impartiality and disinterestedness of education.[1]

III. *Moral Discipline in the Primary School.*

The moral discipline of schools is an important question. Rousseau thought it was best to let children incur the natural consequences of their actions. Spencer has reproduced the same theory under the name of *natural reactions*, and Tolstoï has carried out the experiment in his anarchic school at Yasnaïa. Spencer's principle has been often criticised, and not unjustly. A thoughtless boy teases his neighbour and disturbs the whole class; natural reaction in this environment will be an argument *ad hominem*. A row will inevitably follow, and order will be compromised for the rest of the lesson. If the master intervenes to bring the culprit to reason, authority is brought into play and the system of natural reactions proves a failure. Suppose a boy is simply inattentive during the lesson. The master cannot reprove him without infringing the doctrine of natural reactions. But if a boy is inattentive one

[1] *L'Éducation selon Herbart* (Roerich).

day, and is made to suffer no inconvenience, he will be inattentive the next and the following days. A bad habit is quickly contracted, and the natural reaction is only produced when the evil is irreparable. Inattention and habitual carelessness in a boy are naturally followed by ignorance, intellectual inferiority to his hard-working schoolfellows, and finally by the difficulties of life resulting from that inferiority. The injury is only felt a long time after the faults of school-life, but then it is irreparable.[1] Nature especially excites children to spontaneous physical development. Hence the craving for incessant motion, the aversion to everything that keeps them still. Almost all the faults of children are due to their turbulence—*i.e.*, to exaggeration in the satisfying of a want. Fatigue is only the reaction from overstrained activity. The child who neglects his work and plays till he is tired will not feel the punishment of his moral fault by physical fatigue. Rest will restore his readiness for movement, and his longing to recommence the exercise that fatigued him; but he will never be led by any purely physical impulse to the work he has neglected. A child's mind can establish no relation between the work he has forgotten and the fatigue resulting from too prolonged or too violent exercise in the time he ought to have devoted to that work. Here natural reaction misses its aim; it neither diverts from play, nor does it induce the child to work.[2] The necessity of a rule is clear even in the most instinctive acts of the child. Repletion inspires in him a repugnance to food—a repugnance which may issue in disgust. This is a

[1] *Vide* M. Chaumeil, *Pédagogie Psychologique.*

[2] *Vide* M. Roerich, *Les Principes de Herbart sur l'Éducation.*

natural reaction. But a keener sensation, a pleasing flavour, may produce a reaction which may lead to eating more than he wants. Cold water is agreeable when one is bathed in perspiration; the natural reaction is inflammation of the lungs. Are we to wait till it comes? In a word, a man left to the mercy of natural reactions would descend in the animal scale; he would not even live.

Tolstoï, in his school at Yasnaïa Poliana,[1] takes as his starting-point the principle that all rules in schools are illegitimate, that the child's liberty is inviolable, and even that children should suggest to the master the subjects they wish to be taught, and the methods to be adopted. Tolstoï thinks that true liberty precedes culture, that Providence is enough to turn men left to themselves to the true and the good. Hence the beautiful disorder in his school, described by him in such a charming way. The master enters the class-room. On the floor lie the squalling children, rolling in a heap and shouting: "You're choking me, boys!" "Stop! stop pulling my hair!" "Piótr Mikhaïlovitch!" shrieks a voice from the bottom of the heap to the master, "make them let me alone!" "Good-day! Piótr Mikhaïlovitch!" shout the rest, abating none of their noise. The master proceeds to take the books and distribute them to those who have followed him up to the desk. Then the boys on the top of the heap ask for books. Little by little the heap diminishes. When the majority have their books the rest rush to the desk shouting: "One for me!" "Where is mine?" "Give me the book I had yesterday!" "I want the

[1] The account of the anarchic schools will be found in *The Long Exile* (Walter Scott). (Tr.)

Koltsof."[1] Perhaps two are left, who in the heat of the struggle remain wrestling on the floor. Then the others, seated on the form, book in hand, cry: "What are you dawdling for? We can't hear anything. Stop!" The combatants submit; all out of breath they take their books and sit down on the bench, and for the first moment or so the movement of their legs betrays the excitement that has not yet calmed down. The ardour for the fray has vanished, and now an ardour for work reigns throughout the class. With the same zest with which he was a few minutes ago pulling Mitka's hair, the boy now reads his Koltsof; his mouth is slightly open, his little eyes sparkle, and he sees nothing of what is going on around him—nothing but his book. "The same effort would now be necessary to tear him from his book as would have been required just before to drag him out of the fight." The boys sit just where they fancy: forms, tables, window-ledges, are all the same to them; but the arm-chair is the object of universal envy. When one takes it into his head to instal himself therein, another guesses his intention, from nothing but the expression of his face; both rush for it, and whoever gets it, keeps it. The smarter of the two stretches himself out in it, his head deep down in the back of the chair, but he is carried away by work, and reads as earnestly as the others. "During class I have never seen them chatter, or pinch one another, or indulge in smothered laughter, or uncouth sounds, or tell tales of one another to the master." When a boy, educated by a *ponomar*[2] or at the district school,

[1] Aleksei-Vasilyévitch Koltsof (1809-1842), a distinguished Russian poet. (Tr.)

[2] *Ponomar* or *paramonar* is a church official, a doorkeeper. (Tr.)

comes up to make a complaint, the only comfort he gets is: "Well, are you sure you did not pinch yourself?"

In Tolstoï's opinion, constraint by any physical means is impossible. The more the master storms, the more noisy the boys are; his voice only excites them. If he succeeds in stopping them, and in turning their attention in another direction, this little sea becomes less and less agitated until it finally calms down. But in most cases it is best for him to say nothing. Yet it seems as if disorder is growing and increasing every moment, as if nothing can check it but constraint. "Then all we have to do is to wait until this disorder (or fire) has ended, and the order of the class will then be of a better and more stable character than any we could substitute for it."

In the evening the boys do not care for mathematics and analysis; they have a peculiar taste for singing and reading, and especially for stories. "What is the good of so much mathematics?" they say; "it is far better to tell stories." All the evening lessons stand out in sharp contrast to those of the morning, having a special characteristic—peace and poetry. "Come into the school at dusk; there is no light in the windows, all is quiet. The snow on the steps of the stairs, a dull, low murmur, a movement behind the door, a young rascal, holding on to the balustrades, tearing up two steps at a time, are the only signs that the boys are within. Go into the school, it is almost too dark to see, but look at that little fellow's face: he is sitting down, gazing intently at the master; his brows are knit, and for the tenth time he pushes off his shoulder the arm of a schoolfellow who is leaning on him. Tickle his neck, he does not even smile, he

merely shakes his head as though to dislodge a fly; he is absolutely absorbed by the mysterious and poetic story, how the great veil of the temple was rent in twain, and how darkness brooded over the land: the story is at once entrancing and painful. . . . But now the master has finished. All rise from their seats, and crowd around him, each repeating all that he remembers of the story, and trying to out-shout his neighbour. Those who are told they need not repeat it because they know it perfectly are none the quieter for that, but rush up to another master, or if there is no other master, to a schoolfellow, a stranger, or even the stove-lighter; they run from one corner to another, in groups of twos and threes, each begging the other to hear him. It is rare for a single boy to tell the tale. They divide into groups, each seeking his equal in intelligence, and away they go, encouraging and correcting one another. 'Come now, let us say it together!' says one boy to another. But the latter, thinking he is not a fair match, sends him to a third. At last, when they have finished the story, they calm down. Candles are brought, and their attention is diverted to something else. About eight o'clock their eyes grow heavy; yawns are frequent; the candles burn more dimly, and are not snuffed so often. The elders are still wide awake, but younger and inferior lads begin to doze, with their elbows on the table, to the drowsy hum of the master's voice."

When the children are tired of their work, or just before a holiday, all at once, without saying a word, during the second or third lesson after dinner, two or three boys dart into the hall and quickly seize their hats. "Where are you off to?" "Home!" "But how about your singing?" "The boys said it

was time to go home," answers the youth, slipping towards the door with his hat. "But who gave them leave?" "The boys are gone," is the response. "Well, then," says the master angrily, for he is all ready for his lesson, "just stop a moment!" But another youth runs into the class-room, his face all aglow, but with a certain air of embarrassment. "What are you stopping for?" he says in a surly tone to the lad who has been kept back, and who in his hesitation is picking the wool from his sheep-skin cap with his fingers. "Look where the other boys are already! At the blacksmith's, perhaps, by this time." And both rush off shouting to the master from the door, "Good-bye, Iván Petrovitch!" And the little feet clatter on the stairs, and the boys, tumbling, jumping like cats, falling down in the snow, chasing each other, rush home, rending the air with their shouts.

These scenes, says Tolstoï, are reproduced once or twice a week. It is humiliating and painful to the master, but he puts up with them because they give all the greater meaning to the five or six lessons which are freely and voluntarily attended by the boys every day. If the alternative were proposed in the words: Would you rather never have a scene like this the whole year through, or would you have them recur every other lesson? Tolstoï would choose the latter. The school is freely developed, says he, simply by the principles laid down by the masters and the boys. In spite of the master's authority, the boy was always at liberty to absent himself from school, or even not to listen to him when he did come. On the other hand, the master had the right, if he wished, to neglect the boy when at school, and the power to

act with all the influence he could bring to bear upon most of the boys—upon them as children at school, and thus upon society at large, of which they were a part. According to Tolstoï, this disorder, or "free order," only appears frightful to us because we are accustomed to the entirely different system in which we were brought up. In this connection, as in others, the use of violence is only based upon a theory formed, not merely without reflection upon human nature, but without even taking it into account at all. Schoolboys are men, subject, small as they are, to the same necessities as ourselves; they are, like us, thinking beings. They all want to learn, and that is why they go to school, that is why they need no effort to arrive at the conclusion that to learn anything they must be subjected to certain conditions. Not only are they men, but they form a society of beings united by thoughts in common. "Where two or three are gathered together in My name, there am I in the midst of them." They neither rebel nor murmur when they submit to the only natural laws—the laws derived from nature; submitting to your unseasonable authority, they nevertheless do not admit that your bells, your time-tables, and your rules are legitimate.

At the school of Yasnaïa Poliana, when the spring was over, there were only "two cases of visible contusion;" one boy was pushed down the steps and hurt his leg (the wound healed in a fortnight); another had his cheek burned with blazing pitch, and he had a scar for a couple of weeks. Tolstoï concludes that the school must not interfere in discipline, which concerns the parents alone; that the school ought not to, and has no right to, punish or reward; that the best discipline is to give the boys absolute freedom

to learn and to settle their own affairs entirely by themselves.

Tolstoï and Spencer may both be reasonably blamed for calling the system of discipline by *natural* consequences *moral education.* These reactions only teach the children the relations of natural causality (and that, too, not always with sufficient emphasis), but they are not of a moral character. Spencer, however, thinks that natural reactions are apt to instil in the child the sentiment of responsibility. Yes, but of purely utilitarian responsibility. The object of true pedagogic sanctions is to form the moral judgment, to give birth to, to sustain, and to develop in the child internal sanctions, pleasure and displeasure of the conscience, self-satisfaction and self-dissatisfaction. That is how they are distinguished from purely disciplinary measures. They consist essentially in approbation and blame. They may not always be identical with these, but they should always be referred to them as the sign to the thing signified. "The moral consciousness of the pupil is developed, in a measure, by contact with that of the master, manifested by approbation and blame."[1]

We may ask Tolstoï why the school should be limited to instruction alone, leaving education to the family, who often acquit themselves but ill of their task? The anarchic system of Tolstoï may be applicable when a Tolstoï conducts the school; if it became general it would be intolerable. We are by no means persuaded that wherever two or three children are gathered together the spirit of Christ is in the midst of them; it is more often the spirit of the devil —that is to say, of primitive and ancestral barbarism.

[1] M. Pillon.

Besides, school ought to be a preparation for social life. The school of Tolstoï may certainly prepare the child for a society such as the great writer dreams of —without judges, prisons, or army ; but anarchy in school life is a detestable preparation for the organised and legal life of society as it is at present. The child must not be persuaded that its only law after leaving school is its own sweet will, checked by that of others ; that life is made for amusement ; that we study and work when we take it into our heads ; that people do nothing unless the whim seizes them. It is not by a system of education like this that citizens, to say nothing of soldiers, will be made.

What deduction, then, can be drawn from Tolstoï's experiments? That, if discipline is necessary in schools, it should not be carried into rigid formalism; whenever the moral influence of the master is enough, let us be content with it ; but also, every time the child abuses his liberty or his strength, he must be clearly taught, by some sanction carrying with it its own motive and reason, that every human community is subject to laws, and not left to the anarchy of which the Slavs dream.

IV. *Necessity for the Teaching of Civic Duties in all stages of Instruction.*

Civil and moral instruction should be conjoined. Stuart Mill said that the voter ought at least to be capable of copying out several lines of English, and doing a rule-of-three sum,[1] before placing his vote in

[1] "I regard it as wholly inadmissible that any person should participate in the suffrage without being able to read, write, and, I will add, perform the common operations of arithmetic."—J. S. Mill on *Representative Government*, p. 68. (Tr.)

the ballot-box. Spencer says, with more justice, that the multiplication table will not help you to see through the fallacies of socialistic theories. What does it matter whether the working man can read or not, if he only reads what will confirm his delusions? A drowning man clutches at a straw; a man overwhelmed with care clutches at any social theory that promises him happiness. What is necessary is better civic instruction. Among working men of every kind, who are the best instructed? The artisans; and it is precisely from the artisans, with their false ideas, that the greatest peril threatens us. "The ignorant peasant," it has been well said, "is less irrational than the enlightened artisan. A little instruction sometimes leaves the recipient a long way off good sense; but much instruction must bring him nearer to it. If we cannot bring primary instruction to perfection, a wide diffusion of that instruction will bring all working men, peasants included, to the level of the artisan, and will give them more power to carry out an unfortunate policy or bad social economy."[1]

Spencer and Bluntschli agree in the assertion that in our democracies there is no possible liberty, no possible vote, no possible security for property, without a "good political education." The school, and especially the school of the people, can only be a distant preparation for this education. "The child grasps with difficulty the notion of the State. We can only give him very vague ideas on the political and social constitution, and they afford but little interest to the youthful intellect. We have especially to inspire the child with public morality, civic virtue, patriotism, and that too by example rather than by

[1] A. Fouillée, *La Propriété sociale et la démocratie*, p. 202.

precept." But there is always a great gap to be filled up, namely, the time elapsing between leaving school —about fourteen—and the age of political majority. In this interval it is certain that the youth is left to himself; that he is exposed to the danger of forgetting a large part of what has been taught him; that civic instruction, in particular, is forgotten just when it is most necessary. If it is legitimate to require three to five years for military training, would it not be legitimate to require a few hours a week to give our young men positive ideas in political science and constitutional law? Defence against "the attack of barbarians from within" is as essential in our democracies as defence against the foe from without. I am one of those who believe that it would be desirable, during the whole of a young man's military service, that he should be taught not merely his military "theory," but also what has been called civic theory—the principles of our constitution, the organisation of the State, and the duties and rights of the citizen. This might be done by text-books outside all party lines, without either political or religious bias.[1]

In Belgium, examinations for the franchise have been instituted: this would be a good example to follow.[2]

[1] Raleigh's *Elementary Politics* (1s., Clarendon Press) will probably occur to the reader as an instance of what has been done in England in this way. (Tr.)

[2] The new Belgian law takes as the basis of the franchise not the census, but intellectual and moral capacity. Candidates are submitted before a jury to an electoral examination, comprising very simple questions on morality, Belgian history, constitutional institutions, reading, writing, arithmetic, and geography.

Before adopting this conclusion, experiments were made on the results already obtained by primary instruction; the militia who had been at school from four to six years were subjected to an extremely

V. *Instruction in Æsthetics.*

At present but little effort has been made to give a really *æsthetic* education. Historical education has received attention, but æsthetic education has not received its share. When literature is taught, it is from the point of view of names and dates, while in æsthetics dates are of but secondary importance. We must give the first place in the different degrees of instruction to the beautiful, and not merely to literary, but also to artistic beauty. In the depths of every man is a fund of enthusiasm which only asks room for expansion ; unfortunately it too often expands on things not worth the trouble. I knew an honest man who left his province, his home, and his everyday

simple examination. They were asked, for instance: "What are the four great towns of Belgium, and upon what rivers are they situated?" Thirty-five per cent. could not answer at all; 44 per cent. were only partly right. To the question, "By whom are the laws made?" 50 per cent. were unable to answer at all ; 35 per cent. said they were made by the king, or by the king and queen, or by the ministers, or by the government, or by the senate ; 15 per cent. gave an accurate answer. Asked to name an illustrious Belgian, 67 per cent. named all kinds of foreign dignitaries in various countries ; 20 per cent. could only name Leopold I. or Leopold II. Such were the unsatisfactory results of the Belgian law of 1842 on primary instruction.

Bluntschli, entering into no details, proposes to the State as a model "the profound subtlety of the Church," which is able to fill young minds with its teaching, and to consecrate, in a measure, the entry of the Christian into life by what is called "confirmation." Bluntschli would like a kind of "civic confirmation and consecration." "Before being allowed to exercise his privileges as a citizen, every man should have undergone a course of civic education, or some corresponding examination. If necessary, an annual State festival would commemorate this civic consecration. A sense of what the State really is would thus grow in men's minds, and the intellectual and moral capacity of the elector would be better secured."

life, to make a journey to the Pyrenees, for the sole purpose of eating trout caught in Lake Gaube. That was gormandising carried to the verge of enthusiasm. The object of education is not to suppress enthusiasm, but to direct it towards objects worthy of it—towards *the good and the beautiful.*

There are two kinds of imagination: one consists pre-eminently in approaching things from the point of view of resemblance. Metaphor arises from—first the involuntary, and then the voluntary blending of images. The imagination of children and young people is essentially metaphorical; their language even is composed of figures of every kind. The analytic spirit, on the other hand, consists in the apprehension of the differences rather than the resemblances of things, in defining the outlines of perceptions. The mind, possessing the highest form of imagination, is able to represent to itself points both of resemblance and difference, and to distinguish all its percepts and concepts, and at the same time to grasp the point at which they touch, and the features they have in common. The creative imagination is constituted by this double faculty of perceiving resemblance and difference. The perception of differences is the more voluntary part of the imagination: it is the part of genius involving work and even effort. Creation by an artist or thinker presupposes two things—first, spontaneous and confused synthesis; then order and analysis introduced into that synthesis. To create is, in a certain sense, to unify (all is one in the universe); but it is also to see variety in the indistinct unity of things. The work of art and even of science is always more or less a metaphor, but a metaphor conscious of itself, of its

different terms, and of the determinate relation which connects them. The child must be accustomed to keep its imagination under control, to guide it, and *ipso facto* to make it analytic,—to change the play of imagination into methodic work, into an art. The excess of a child's imagination, like that of primitive races, is largely due to the greater indistinctness of the perceptions, which are more easily transformed into one another at will. They see what they wish to see in the confusion of things, just as we see shapes in clouds. As yet the name is for the child inseparable from the object; language is not for him the algebra it becomes for us: if we speak to him of anything, he sees it, and when he does not see it, he cannot understand what we are talking about. He distinguishes clearly neither time, place, nor persons. The imagination of children has therefore for its starting-point the confusion of images produced by their reciprocal attraction; they blend the past with the present or the future; they do not live as we do, in the *real*, in the determinate; they assign no definite limits to a sensation or an image; in other words, being unable to distinguish or perceive anything very clearly, they dream *apropos* of everything. The child not having yet developed the art of recollection, everything is in the present to him. A confusion between the present and the past is often visible in the child. A boy of two and a half years old dropped his ball the other day from the top of a balcony. The ball was restored, and since then he has played with it a hundred times; in spite of that, he brings me suddenly to the balcony, and then, in a pathetic tone of voice, but with genuine grief, tells me he has dropped it over. The child

retains and reproduces images much more than he invents them or thinks them; and that is precisely why he has no clear idea of time: the reproductive imagination, being isolated, is not distinguished from, nor is it opposed to, the constructive imagination, for the latter is only the higher development of the former. The child or the animal have really no past—that is to say, no totality of recollections systematised and in antithesis to the present or to the future, which they imagine and construct in their own fashion. The faculty of generalisation, so great and so often noticed in children, arises from their much clearer perception of resemblances than differences. In the case of my boy, two and a half years old, every fruit is an apple, every colour attracting his eyes is red, because that is the essentially salient colour. When lying in his cradle he shows me the bottom and then the side of the bed—"this is the road, and that is the ditch;" he imagines these things of himself without ever having been taught to play such a game. This is because he is led by superficial analogies so powerfully that in a short time he is not conscious of differences; I am quite sure that when he goes to sleep he really thinks he is right in the middle of a white road, with ditches on the right and left. Children also constantly deceive themselves about persons. If something has been broken, and I ask my little boy, "Who has broken that?" he almost always answers, "Baby." This is because it is generally Baby that has done any mischief. Besides, in his own eyes, he is the centre of the world, and he therefore considers himself not only as the object, but also as the cause of everything that is done.

Imagination, as I have already said, begins with

an involuntary confusion of images, which, at first unconscious, becomes conscious in the course of correction, causes a certain pleasure, and then is voluntarily repeated for the sake of that pleasure. The play of the imagination was at first an error. I can compare it to nothing better than to a gentle fall, causing no pain, which amuses, and though on the first occasion an accident, becomes a game at which the child plays. How fond children are, for instance, of rolling on the grass!

Fiction is natural to children. It is a mistake to say that, as a rule, they lie artificially to escape, for example, a punishment. The lie is in most cases the first exercise of the imagination, the first invention, the germ of art. The child of two and a half alluded to above frequently lies to himself, telling stories out loud in which he inverts the actual occurrences, corrects them, and generally gives them a better turn than they really have. For instance, he says to himself—"Papa does not speak properly: he says '*sévette*'; baby does speak properly: he says '*serviette*.'" Naturally, what did happen was just the opposite, and the child had been corrected. All day long the boy goes on in this way, transposing events that really occurred, and changing the part he himself plays in them. The lie is the first romance of childhood, and often is concocted to embellish what has really happened; the romance of the philosopher—a metaphysical hypothesis, and ordinarily told for the same purpose—is sometimes the highest class of fiction. Sincerity is a very complex result of social life; it springs from human respect, a sense of personal dignity, interest properly understood, etc. The child himself is only sincere from the spontaneity,

transparence, and natural purity of his soul; but unless the words leave his lips under the immediate pressure of some emotion, he henceforth is merely translating the play of incoherent images haunting his brain. He plays with words as with everything else; he tests them, puts them in all possible positions, combines the same ideas in the most unexpected way, and makes phrases just as he makes "houses," "gardens," and "pies" out of sand, without troubling himself about reality. And when he has taken a false direction, his persistence is due to his efforts to mark his personality. In a word, he is perpetually confusing what he really has done with what he would have liked to do, what he has seen done, what he has said he has done, and what he has been told he did. The past is to him the dominant image in the confusion of interwoven images.

In proportion as the child has a natural turn for invention, and is careless of the reality of his stories, he is the less a hypocrite and a dissembler. The real lie, the *moral lie*, is dissimulation, which only arises from fear; it is in direct ratio to the ill-judged severity of parents, and to unscientific education. Far from being naturally inclined to hide an act of disobedience, the child is rather led to tell it, and to place it in bold relief, because in his eyes it is a mark of personal independence. My little lad always comes and tells me the little follies he has committed in the course of the day, sometimes in a boasting view, sometimes duly penitent; I have made it a rule never to punish him for anything he thus tells me of his own accord, but only when I catch him in the act; my only object is to substitute repentance for satisfaction in these acts of folly, and I am gradually

succeeding in this by gentle and always very short reprimands.

To reproduce a fact or a story with changes is a fertile source of amusement for children, but they have difficulty in doing it. It is really hard work to them, as we may see when we watch them in the act. A little four-year-old friend of mine said to me: "Listen, I am going to tell you a story; but it is not the story of little Poucet.[1] Once upon a time there lived in a forest a very little boy, the son of a wood-cutter; but it was not little Poucet," etc. And so the story went on, always accompanied by the parenthesis, "This is like the story of little Poucet, but it is not really the same story."[2]

The true culture of the imagination is Art in its various phases: the child must be made an *artist—i.e.*, we must introduce into the spontaneous play of his imagination the laws of the true and the beautiful, which constitute, so to speak, the very morality of the imagination. Education, therefore, ought to be profoundly *æsthetic*. The essential part of instruction is to teach the child to admire what is good, to become

[1] This is our old friend "Hop-o'-my-thumb." (Tr.)

[2] A little girl is often much more devoted to an old, spoiled, and disfigured doll than to a new doll, although possessing a face of a much more human character, because her imagination has more power over the former than the latter, and she transfigures it by her recollections or the fictions of the moment. "One day," said a lady, telling me her recollections, "I wanted to play more seriously at being 'mother.' I was then a biggish girl. I left all my dolls, and making a bundle of my table napkin, I spent half the night cradling this improvised baby in my arms."

It is said that what little girls really are attached to in their dolls is the representation of the children they may have in after years, that they are simply playing at being "mother." This is not quite true. "When I was a little girl, I had a big ball of various colours that I was really passionately fond of; I never let it out of my sight; I used

himself capable of imagining things pretty, beautiful, and graceful. Knowledge properly so called, I again repeat, only comes afterwards, and its moralising influence only begins, as it has been pointed out, at the moment it ceases to be merely a tool and becomes an artistic object.

An image is the best instrument for clearing up the ideas of a child—perhaps of all of us. The poet is pre-eminently he who best perceives the relation of form to emotion and thought; he elicits by an image what is latent and ignored within us. That is why the ancients saw in the poet an almost divine being—at any rate a being divinely inspired; that is why they picture Orpheus as the educator even of Nature herself, and that is why they made of their poets the first and the only educators, so to speak, of their youth. The moral, thinking, and feeling being has yet to be created in the child; and just as we do not profess to leave the child to discover the fundamental laws of science (assuming him capable of such discovery), so we ought not to expect him unaided to attain to all the most elevated sentiments; he must be brought to such a level little by little; he must be taught not only the discoveries and acquisitions, but also the ideal aspirations of the human mind, from

to clasp it to my heart as if it were a living being very dear to me, and I always used the utmost precaution when I played with it for fear of breaking it or hurting it. I used to feel a kind of regret that a ball had to bounce up and down in all directions; in reality I only loved it because it was a companion, a real friend. The doll's eyes have no expression but what the child gives it, and the expression is only given in the process of time. To love a being you must live with it, and this is still more true of dolls than men."

"The less individuality the doll has, the more it is appreciated by the child, who can the better utilise it as a lay figure in many different characters."—Galton, *Enquiries into Human Faculty*, p. 108. (Tr.)

which, in fact, all science springs. In young people especially an appeal must be made to the heart, the imagination, and the senses, before addressing the intellect; before the imagination can see, every object must have form and colour. Even the heart needs the illumination of the eyes. Thus the young child, when incapable of noticing the care lavished upon it, is nevertheless conscious of the mother's love by the sudden gentleness of her glance, by her caressing gestures, by the accent of her voice as she seems to linger over the lullaby. That is the tenderness of the mother made visible to the eyes and to the heart; and therefore it is the poetry of maternal love. The distinctive characteristic of poetry is that it surges up into the heart and overflows just as love itself; it outstrips the visible form in which it is manifested, and beyond this it presents something of the infinite. The sculptor is as the poet. When the chisel hews the marble, it is not to "embody" in it the idea, but rather to give birth to the idea, and to make it issue from inert matter; as the statue "leaps" from the block, as the outlines become definite and the features appear, the expression—which gives life and reality to the whole—at the same time seems to emerge; like an impalpable and luminous ray of light, it runs over and plays on this inert matter from which it springs, on the visible shape above which it hovers, and thus it is projected into our eyes, our hearts, and the very depths of our being. Poetry is still more expressive. By its aid the sense for words becomes wider, images reach the point of symbolism. As poetry leaves us to guess more than it tells us, it is within the scope of alike the youngest and the ripest minds, each understanding it according to its powers.

In its deepest sense it appears to us as the mirror in which are reflected and blended into a single image what our eyes perceive in the outer world, and what our thought anticipates or divines in the apparently impenetrable inner world. Let us then teach our children to know, and especially to understand, the poetry to which at all periods of life we return so many times, sometimes for help to hope, sometimes for help to forget.

The æsthetic qualities are the most likely to be transmitted by heredity; it is therefore of importance that they should be maintained in their purity, and unceasingly developed. The Greek was born with natural taste, with an eye and an ear for the beautiful. So it is with the Frenchman. Sense and sentiment play a leading *rôle* in æsthetics. Now perfection and delicacy of sense and sentiment are transmitted by heredity. They may also be lost; we must be careful not to allow such a precious heritage to pass away from us through our neglect of æsthetic education.

"Are the fine arts necessary to the people?" Pedagogues, says Tolstoï, as a rule hesitate and are perplexed in dealing with this question. Plato alone boldly answered it in the negative.[1] Some say, "Yes, but with certain restrictions; it would be detrimental to social order if every one had the opportunity of being an artist." Others say, "Certain arts can only exist in a certain degree in a certain class of society." Again, "the arts require exclusive and single-hearted service." And finally, "great talent should be afforded the opportunity of entire devotion

[1] Plato, *Republic*, bk. iii., sec. 401.—*Vide* Nettleship's Essay on "The Theory of Education in Plato's Republic," in Abbott's *Hellenica* (Rivington), pp. 113-130. (Tr.)

to art." Tolstoï's conclusion is that all this is unfair. He believes that the want of artistic enjoyment and culture exists in all human beings, whatever their race or environment; that this is a legitimate craving, and should be satisfied. Elevating this maxim to the dignity of an axiom, he adds that if the pleasures and the universal culture of art are fraught with inconvenience and discord, this is due to the character and tendencies of our art; "we should give to the young generation the opportunity of creating art that will be new alike in matter and fundamental construction." "Every child of the masses has the same—nay, greater rights to the pleasures of art than we, the children of the privileged classes, whom the imperative necessity of protracted toil does not constrain, whom all the luxuries of life surround." And again, "One of these two must hold: either the arts in general are harmful and useless, which is not so strange a theory as it seems at the first glance; or, every individual, whatever his rank or occupation, has a right to art. To ask if the masses have a right to art is tantamount to asking if they have a right to food, if they have a right to satisfy the necessities of their human nature." No! The question is not a question of right; what is of importance is to know if the food we offer or refuse to the masses is good. So, by placing within the reach of the masses, as far as is in our power, certain branches of knowledge, and by ascertaining the amount of harm done by those branches, I conclude, not that the masses are vicious because they do not accept that knowledge, not that they are as yet too undeveloped to accept and utilise it, but that the knowledge itself is abnormal and vicious, and that with the aid of the masses

themselves we must devise fresh branches which will be suitable to all—to the fashionable world and the toiling myriads alike. Such arts, such branches of knowledge as survive among us and do not seem harmful, but cannot survive among the masses, and do seem harmful,—such arts, etc., are not those that are generally necessary; and we live in this environment only because we are depraved, like those who sit with impunity for five or six hours at a time in the fetid atmosphere of a workshop or a public-house, and who are but little inconvenienced by breathing an air which would prove fatal to others not inured to it. It may be asked: "Who says the knowledge and the arts of the intellectual classes are false? Why do you conclude they are false because the masses do not accept them?" All questions of this kind may be very simply answered: "Because we are thousands, and they are millions. As for the trite and trivial paradox that preparation is needed for the appreciation of the beautiful, what kind of man states it, why is it stated, what is there to prove it? It is only a subterfuge for escape from the *cul de sac* into which we have been driven by the untenable character of our standpoint, viz., the making of art an exclusive privilege of a class. Why are the beauty of the sun, of the human countenance, of a ballad, of love and sacrifice, accessible to each of us, and yet we do not need special preparation for our appreciation of them?"

"Because we are thousands, and they are millions," says Tolstoï. If this is not the right of the strongest, at any rate it is the right of the greatest number. To consider false what the majority of men fail to see and believe, is to be rather like the contemporaries of Christopher Columbus, who denied the existence of

America. Should we disbelieve in the existence of stars merely because they are beyond our view? Tolstoï is certainly right when he tells us modern art has unhealthy tendencies which we accept because we are accustomed to them—so accustomed to them, in fact, that we make a kind of abstraction of them; we instinctively evade the convention of a new style, which has replaced what may be called the "ceremony" of classical works; we only see, and we only want to see, the beautiful side of a work—in fact, just that part of it which makes it a work of art. We may safely assert that if a work of art enjoys permanent success, that success is due in some measure to whatever it possesses of the beautiful and the true. Tolstoï dreams of a great and popular art, quite close to nature, simple and elevated, pure as the air and the light, without the affectation, the hyper-refinement, and morbid character of our arts. The dream is a beautiful dream, and it is good to have such visions. Extreme of refinement is not depth, and art can only gain by being—at any rate partly—accessible to all, and thus tending to the universal. But to go so far as to condemn in art whatever is not as patent as the light of day is really to restrict it. Nothing will ever make the simplest among us seize at the outset what self-conscious thought has been gradually led to understand and express. We must ourselves pursue anew the road traced out by others if we wish to follow them. The artistic education of the eye begins in little children with the mere distinctions of colours; and its beginning so early in life is a further reason for continuing later. To maintain his position, Tolstoï unjustifiably connects artistic beauty with moral beauty. If it is true that every one can understand

the beauty of love and sacrifice; it is because moral beauty springs from the very heart of man, and is radiated without; while the beauty of things, to be thoroughly understood, should re-enter the heart, being brought back thither by emotion; the one is ours already, the other should become ours. We all can see the sun, but we do not all admire it in the same degree. It is a paradox to pretend that no initiation is necessary even for the comprehension of simple and natural art; unfortunately, that is just what we understand last of all. To believe that children and the populace (that mass of poor grown-up children) will not find more pleasure in flaring daubs than in fine engravings, in the swing and rhythm of dance music than in a sublime and simple song, is a pathetic instance of love for the masses carried to the verge of blindness. Who will give us an art at once noble and popular, an art that is really classical and in every detail educative? Meanwhile, let us select from our works of art those that are the healthiest, simplest, and most elevated, and let us place them within the reach of all. Perhaps, after all the arts of this period of decadence have passed away, we shall see a new art revive and flourish, young and full of life, destined to become one of the forms of the religion of the world.

"If it is true," says M. Ravaisson, "that the imagination of children, and especially the children of the masses, is always more developed than their reasoning powers, does it not follow, not merely that a place that it does not at present possess should be awarded to the cultivation of the imagination, but that such a culture should take the most prominent position in primary instruction?" It is, in fact, of

the greatest moment to direct every nascent faculty, especially when that faculty is connected with what has been called our native fancy. In these days art in the most general sense plays a certain part in the education of the higher classes; but in the education of the lower classes there is nothing of the kind; now children and young people of all ranks in life should be brought up *in hymnis et canticis*: "this is how the ancients nurtured their youth in a poetry at once religious and patriotic, and in an art derived from the same sources; thus they were nurtured in the culture of the highest beauty. Instead of letting itself be almost entirely overrun by a pseudo-utilitarianism which leaves without culture those faculties from which others ought to receive an impulse, why should not modern education be inspired by the traditions of old? And I may add, that by that inspiration the great problem would be solved, to which modern systems of pedagogy, from Rousseau to Pestalozzi downwards, have given an inadequate solution—*i.e.*, the problem how to interest children in their studies, especially the children of the primary schools." M. Ravaisson remarks that "beauty is the watchword of the universe;" he adds, with somewhat more truth, that "beauty is the watchword of education."[1]

Without being as anxious as M. Ravaisson with regard to the results that purely manual work may have in our schools, I think that that kind of work which, as I have said before, is exercised upon matter, must be completed by both a feeling for and a study of form—by æsthetics. Every trade, every occurrence of daily life, requires what Leonardo da Vinci called "a good eye." "It is the eye, in fact," said this great

[1] Ravaisson, *Dictionnaire de Pédagogie*, article "Dessin."

master, "which has discovered all the arts, from astronomy to navigation, from painting to the craft of the locksmith and carpenter, from architecture and hydraulics to agriculture."

Drawing and singing are the popular arts *par excellence*, and those therefore which may be the least removed from nature. It will be said: If drawing is really required in the popular schools, it can only be technical drawing, applied to the purposes of life—the drawing of a plough, a machine, a vessel, etc., in fact, drawing considered as auxiliary to linear drawing. "But," retorts Tolstoï with considerable truth, "experience has shown the inanity and injustice of the technical programme. Most children, after four months at drawing restricted to technical applications, with no reproductions of faces, animals, or landscapes, were eventually almost disgusted at the eternal copying of technical objects; and their feeling their craving for artistic drawing was so strong, that they made for themselves copy-books in which they drew on the sly, men, horses with four legs starting from the same point, and so on." Every child is conscious of an instinct of independence which it would be dangerous to stifle by any teaching whatever, and which, in this case, is manifested by irritation against the copying of models for imitation. If the pupil does not learn at school how to create, he will only imitate all his life, because, when they have learned how to copy, very few are capable of making a personal application of their knowledge. "By always keeping to natural forms in drawing, by giving them in turn objects of the most diverse character to draw—*i.e.*, leaves of characteristic appearance, flowers, ships, articles in ordinary use, tools—I tried to avoid routine and

affectation. Thanks to this method, more than thirty pupils were sufficiently acquainted with the fundamentals of the art to seize the relations of the lines in faces, and in every kind of object, and to reproduce those objects by clear and accurate lines. The perfectly mechanical art of linear drawing is gradually and as it were spontaneously developed." Leonardo da Vinci firmly believed in commencing drawing by the study of those forms offering the most character and beauty. Now these forms are organic and not merely geometrical.

Music should become the popular art *par excellence*, the relaxation it affords, abstracting us from our absorbing material cares, develops sympathy and sociability. To listen to music with others is to make all hearts beat as one with the instruments and voices. A concert is an ideal society into which we are transported, in which harmony and good understanding are realised, in which life becomes a divine sympathy. The French are beginning to appreciate this view, but their appreciation has not as yet been carried to such an extent as to inquire how far the development of musical taste—so natural to all—is desirable, how far it is important to gradually inspire the nation with a love for great and beautiful music—the music which has a moralising influence because its character is elevated. Military bands and bands under the control of central authorities have an educative mission, which ought to be neither forgotten nor neglected. In addition, music is one of the few pleasures that all classes of society can appreciate together; it thus becomes a bond of universal sympathy, and of such ties there are far too few.

No doubt the plastic arts are not so accessible to our youth as poetry and music. There is, however, no sufficient reason for neglecting the artistic education of children, even in the matter of architecture. Where ruins are not at hand, the plaster casts to be found in museums, the prints and photographs of which so many and so various specimens are now available, appeal to the eyes; indeed, with a little preparation it is not difficult for the master to offer fitting comments on them, to reason out both the detail and the combined effect. After a few lessons of this kind, the child may have a sufficient grasp of this character of sculpture to appreciate Mercier's "Quand Même," or Barrias' "La Défense de Paris."

VI. *Intellectual Education.*

After moral, civic, and æsthetic teaching, let us examine the intellectual instruction given in our schools. The syllabus of primary instruction now comprises reading, writing, the French language, the elements of French literature, geography (particularly France), history (particularly that of France to our own days), a few general ideas on law and political economy, the elements of natural science, physics, and mathematics; their application to agriculture, hygiene, and the industrial arts; manual training and the use of the tools used in the principal trades; the elements of drawing, modelling, and music; gymnastics and military exercises. Children can only learn and understand in the course of a few years so many things at once by a premature straining of the delicate springs of young minds, and we

run the risk of weakening at one stroke both moral and intellectual energy.

The literary, grammatical, and historical part of this syllabus exposes us to the danger of what the English call *cramming*. Has much been done when we have succeeded in filling their heads with facts, dates, words, and formulas? Children do not feel the want of words; it is ideas that are required; and it is ideas we must give them. Unfortunately erudition invades everything—even grammar—in the schools. Let us keep for secondary education—or, still better, for higher instruction—historical commentaries, comparative grammar, lexicology, and phonetics. Do not worry children and masters with lofty speculations with which they have no concern. Let us fear lest, by carrying our imitation of the Germans too far, we substitute dull and dry for frivolous pedantry.

At school and college alike scientific instruction becomes a storing up of facts in the memory, when its essential object should be the development of the observing and reasoning powers, and its secondary object the furnishing of the student with useful and practical ideas, in quantity no more than can be afterwards remembered. As the number of objects of instruction goes on increasing, we must have recourse to different methods than those that obtain at present; we must blend lessons and recreation as often as possible; that is how to instruct without fatiguing. Hence the utility of school walks. Botany is best of all, because the work entailed is in the open air. If St. Louis administered justice under an oak, surely the master may teach under an oak not only natural history, but the history of France—not forgetting the Druids. In order to vary the subjects, there is nothing

to prevent an occasional journey to a mine, a factory, an historic building, or in fact to anything of interest in the neighbourhood.

The account given by Tolstoï of his attempts at teaching history is full of humour. He began, as usual, with ancient history. But the children were not interested in Sesostris, the Pyramids, or the Egyptians. In fact, where they did remember and appreciate some incident, such as the story of Semiramis, it was accidentally, not because they learned anything from it, but because it was cleverly told. As these episodes were not of frequent occurrence, Tolstoï tried Russian history, and began "that melancholy, inartistic, and useless *History of Russia* which from Tchimov to Vodozov has undergone so many transformations." They soon got confused with the Mstislavs, the Vriatschislavs, and the Boleslax. The effort of remembering these "amazing" names brought into play all the intellectual power of the children; what these individuals had done was but a secondary matter.—"Here he is—what's his name?—Barikav, or what is it?" began one of the children,—"marched against — what's his name?" — "Mouslav, Léon Nikolaïevitch?" murmurs a little girl.—"Mstislav," I answer.—"And cut the enemy in pieces," boldly resumes the boy.—"Stop, now! There was a river. And the son who massed his men and cut the foe in pieces? what was his name?"—"What queer history!" says Semka. "Mstislav, Tchislav?—Oh, what is the good of all this?"—Those who had a good memory tried to remember, and, to tell the truth, made very shrewd remarks, for fear of getting their ears boxed. But all this sort of thing was really monstrous, and it was

pitiful to see the poor children. They were like "chickens to whom sand and grain are alternately thrown, and who get wild, and cluck, and struggle, and are ready to pluck the feathers out of each other." Read Clotaire, Lothaire, Chilpéric, for Tchislav and Mstislav, and you have a similar scene in a French school.

The taste for history in most children, says Tolstoï, succeeds the taste for art. He made several further attempts at teaching history, beginning with our own times, and found the results very satisfactory. He took the Crimean War, the reign of the Emperor Nicholas, and the story of 1812. The Napoleonic war was, as might have been expected, the greatest success. "The recollection of that class is one of the most memorable in my life." As soon as Tolstoï began to tell the children how the theatre of the war was transferred into Russia, from every side arose exclamations and cries of the keenest interest.—"What, is he going to conquer us too?"—"Don't be frightened; Alexander was quite his match," said a lad who knew the story of Alexander. Tolstoï had to dash their hopes to the ground; "the time of triumph had not yet come." Their indignation was aroused when they heard of the plan to marry Napoleon to the Czar's sister, and of how the Czar met Napoleon on the bridge as his equal.—"Listen to that!" said Petka, with a threatening gesture. —"Go on! go on with the story!"—When Alexander refused to submit, that is to say, to declare war, general approbation was expressed. When Napoleon with twelve nations marched on Russia, arousing Germany and Poland against us, the children were overwhelmed with grief.

I had a German friend in the room. "Ah! you were against us too?" cries Petka (our best story-teller). "Go on! shut up!" cried the rest. The retreat of the troops was a cruel blow to the listeners, and from all sides arose how? and why? They abused Kutúsof and Barklay. "What a coward Kutúsof was!" "You wait!" said another. "But why did he retreat?" asked a third. When they came to the battle of Borodino, and Tolstoï was obliged to tell them that after all the Russians did not conquer, he could not help pitying them; "it was obvious that I had given them a terrible shock." "Well, if we did not beat them, neither did they beat us." When Napoleon reached Moscow and demanded the keys and homage, they raised a loud cry of disgust. Of course the burning of Moscow caused great satisfaction.

Finally, there came the triumph, — then the retreat. — "As soon as Napoleon left Moscow, Kutúsof began to follow him and attack him," said Tolstoï. "He let him see what for," said Petka, who, all of a glow, was sitting by the Count, and in his excitement was twisting his dirty little fingers. At Petka's words the whole class was seized with a paroxysm of proud enthusiasm. One little fellow was nearly crushed, and they never noticed it.— "That's right!—That's how he got the keys!"— Tolstoï went on to tell how the Russians chased the French; the boys were greatly distressed to hear of the delay on the Beresina, the laggard was treated with contempt, and Petka shouted: "I would have shot him dead for being late!"—"Then came pity for the frozen Frenchmen. Soon the border was crossed, and the Germans, who had been fighting

against us so far, now threw themselves at our feet."

Again the children remember the German present in the room. "That's how you behaved, was it? First you were against us, and then when you found us the stronger, you turned round!" And suddenly all got up and began to shout "ouf!" so that they could have been heard down the street.

When they had calmed down, Tolstoï went on, and told them how the Russians escorted Napoleon to Paris, how they set the rightful king on the throne, how they enjoyed their triumphs and feasted. But the memory of the Crimean War spoiled their pleasure. "'Just wait till I'm grown up; I'll pay them back!' cried Petka. If the allied armies had at that moment stormed the Shevardinsky redoubt or the Malakof Tower, we should have driven them back." It was already late when Tolstoï finished. As a general rule, children are in bed asleep by this time. But no one was sleepy. As Tolstoï rose, to the general amazement, out crept Taraska from under the arm-chair, and looked at him with eager, but at the same time serious face. "How did you get under there?" "He has been there from the first!" said some one. There was no need to ask him if he understood; it was evident from his face. "What can you tell us about it?" "I? I can tell it all. I am going to tell about it when I get home." "And I." "And I too." "Won't it be too long?" "No, indeed!" And off they rushed downstairs, one vowing to pay the French out, another abusing the German, another repeating how Kutúsof had taken his revenge.

"'You told the story solely from the Russian point

of view,' said my German friend, whom the boys had hooted that evening. 'You should hear that story told among us Germans. You told them nothing about the battles for German liberty.' I agreed that my narrative was not a history, but a tale adapted for the purpose of kindling national sentiment."

Tolstoï eventually was convinced that, as far as history is concerned, persons and events interest the scholars in proportion to their dramatic character, and not in proportion to their historic significance—that is to say, in proportion to the artistic nature of the historian's work, or more often because of their connection with popular tradition. Romulus and Remus interested them, not because the two brothers founded the most powerful empire in the world, but because the story was pretty, mysterious, and attractive—the wolf that suckled them! etc. The story of Gracchus is interesting because it is as dramatic as the story of Pope Gregory VII. and the humiliated Emperor. "In fact, in the child, or in any one whose experience is incomplete, there is no taste for history in itself; it is only a taste for something artistic."

According to Tolstoï, the old superstition has passed away, that there is nothing more terrible than for young people to grow up without learning who were Jaroslav and Otho, or that there is such a province as Estremadura. To inspire the young with a desire to know how the human race lives, has lived, has been transformed and developed in different parts of the earth, to know the eternal laws of evolution, to understand natural phenomena, to know how the human race is distributed over the surface of the earth,—that is quite another thing. "Perhaps," says Tolstoï, "it is useful to inspire such desires, but I do

not think Thiers, or Segur, or Obodovski, will help us much. For this purpose two elements are necessary—sentiments at once patriotic and artistic."

Patriotism, in fact, should be the soul of history; history must be used as a basis for moral instruction; but when we have to deal with morality, respect for truth is one of the first conditions. Is there really any need, as Tolstoï imagines, to alter history to make it interesting? If children like stories, it is equally true that they prefer true stories. To turn history into a series of dramas is to entirely misconceive the grandeur and unity of its character, to misplace its interest, to parcel it out, if I may say so, in order to divide it among a few heroes, who, in fact, to deserve this interest will have to satisfy all the rules of dramatic art.

No! what we call history is not the history of a few men, but of a whole race, of whole races; and when the race is the hero, the hero is always in evidence, and the interest ought not to fail on each page with the fall of this or that given personage. Once more, the interest of history is entirely in the ideas, sentiments, and efforts of mankind, not of a few men; the poetry of history is the poetry of life in general, not of a few lives. Even if children are saddened by hearing of defeats where they hoped for victories, ought we therefore to regret that life, which it is not in our power to change for them, should appear to them in its reality? The sole object of consideration should be the age of the children.

As long as children are very young, it is clear that they can only dip into the subject, and cannot read it in the proper sense of the word; history to them will be a simple succession of images to which will be

attached whatever events are within their mental grasp. But in the study of history, however old the child may be, there can be no question of the utter inutility of fastidious nomenclature, of trivial facts—arbitrary in their causes, and not followed out in their consequences. As M. Lavisse puts it, "What trace is left after a few years have elapsed?" Vague recollections are vaguer still; the few well-known features of historic figures are effaced; the divisions of the chronological framework are confused; "Clovis, Charlemagne, St. Louis, Henry IV., fall from their places, as if they were portraits suspended from a loosened nail on a plaster wall." We must therefore choose our facts more wisely; we must drop everything that is useless and trivial; we must throw all the light on those of importance; we must envolve the series so that the pupil may know how France has lived. The history of manners and institutions cannot be taught to the young by abstract terms, phrases, and theories; but, using the elementary ideas every child possesses, and words with which they are familiar, it is possible to describe, in simple terms, the condition of individuals and races.[1] "Who is there in

[1] M. Lavisse was in a primary school in Paris when a young master was beginning a lesson on the feudal system. The young fellow did not understand his work, for he talked about hereditary offices and benefices, and the eight-year-old children he was addressing were naturally absolutely indifferent. The head of the school enters, interrupts the master, and addresses the whole class. "Has any one ever seen a feudal castle?" No answer. Then the master asks a child who comes from the faubourg St. Antoine, "Have you never been to Vincennes?" "Yes, sir." "Well, then, you have seen a feudal castle." Here is a point of departure found in the present. "What is this castle like?" Several answer at once. The master takes one of them to the blackboard; the child draws a rude sketch, which the master corrects. He also sketches in the battlements. "What are those?" No one knew. He explains.

France to teach us what constitutes France?" asks M. Lavisse. It is not the family, for in the family is neither authority, discipline, nor moral teaching; nor is it society, for in society the mention of civic duties

"Now what use were they?" He makes them guess that they were for defence. "What used they to fight with?—with guns?" Most of the children answer, "No, sir!" "Well, what did they fight with?" A budding *savant* at the end of the class answers, "With bows." "What is a bow?" Ten answer at once, "A cross-bow." The master smiles, and explains the difference. Then he explains the difficulty of taking a castle, whose walls were broad and high, by the bows, and even by the machines of those days, and proceeds:—"When you are workmen, if you are good workmen, you will come across the ruins of castles when you travel about for your pleasure or for work." He names Montlebéry and other ruins near Paris. "In each castle there lived a lord. Now what did all those lords do?" "They fought." Then the master depicts the feudal wars, the knights on horseback and clad in their armour, and not a child loses a single word of what he is saying. "But they could not take a castle with lances and cuirasses. So the war was never over. Who suffered most of all during these wars? Those who had no castles—the peasants who in those days worked for the lord. A cottage belonging to the peasants of a lord is burned by his neighbour. 'Ah! you burn my cottages; I will burn yours,' says the lord who is thus attacked. He did burn them, and not only the cottages but the crops. And what happens when they burn the crops?" "There is a famine." "And can they live without food?" The whole class: "No, sir!" "Then a remedy had to be found, and the remedy was called 'The Truce of God.'" Then he comments on it:—"A curious law it was. Just think! They said to the brigands, 'From Saturday evening to Wednesday morning you must be quiet, but the rest of the time don't trouble yourselves—fight, burn, pillage, and slay, as much as ever you like!' Were they mad in those days?" A voice: "Yes, indeed." "No, they were not mad. Now listen attentively. There are idle boys here. I do all I can to make them work the whole week, but I would be fairly content if I saw them working up to Wednesday. The Church would have been pleased if they had not fought at all, but as she could not prevail on the lords to give fighting up altogether, she tried to keep the great lords at peace for half the week. That was always something gained. But the Church did not succeed. It was a case of force against force, and the king had to bring these people to reason." Then the master explained how the lords were not all of equal rank, that the lord

calls forth a jest. The school must tell the French what France is. The final object of instruction in history will be to instil into the hearts of every child in every school a stronger sentiment than "the frivolous

of the castle had a still higher and more powerful lord above him, living in another castle. He proceeds to give a pretty accurate idea of the feudal scale, and at the head of all he places the king. "When people fight together, who stops them?" Answer: "The police." "Well, the king was a policeman. What is done with a man who fights and kills some one?" "He is tried before a judge." "Well, the king was a judge. Can the prisoner escape the police and the judge?" "No, sir." "Well, the kings of old were as useful to France as the police and the judges are now. Afterwards the kings behaved badly, but at first they did good. Did I say *as useful* as the judges nowadays? Much more useful, for there were more brigands then than now. Those lords were fierce fellows, were they not?" The class: "Yes, sir." "And the people, were they any better?" Answer, unanimous, with a tone of conviction: "Yes, sir." "Ah, boys! they were not. When they were aroused, they were terrible fellows. They, as well as the lords, pillaged, burned, and killed; they killed women and children. But remember they didn't know the difference between good and bad. They had never been taught how to read."

"With these words, which are only half true, ended," says M. Lavisse, "a lesson lasting barely half-an-hour. Let us train masters such as this. Put into their hands books in which may be found, laid down in simple terms, the main facts of the history of civilisation. Will they not become capable of teaching children the history of France?"

"It is often said, neglect the earlier pages of history. Of what importance are the Merovingians, the Carlovingians, or even the Capets? Our history is barely a century old. Begin with our own times." "A pretty way of forming settled and solid minds," remarks M. Lavisse, "to imprison them in an age of burning struggles, when needs had to be satisfied and hatred glutted without delay! Truly, a prudent method to start with the French Revolution instead of ending with it, of making children sympathise with that unique, even though legitimate, spectacle of rebellion, of making them believe that every good Frenchman ought to take the Tuileries at least once in his life, twice if possible, and that if the Tuileries are destroyed he may long some day to take by assault the Palais-Bourbon or the Élysée, so as to deserve the name of patriot! Not teach the past! The poetry of the past is a necessity of our present existence." And I may add that the lessons of the past are of equal value with its poetry. Without the past, the present is inex-

and fragile vanity" which is unbearable in prosperity, and which, in the face of national disaster, collapses and gives place to despair, to self-disparagement, to admiration of the foreigner, and to self-contempt.

VII.

The part played by the schoolmaster and by geography in the victories of the Germans in Austria and in France has been much overrated. Though the discipline of the German troops was exemplary, considerable reduction must be made in the estimate generally held as to the education of the soldiers. Besides, reading, writing, and map-lore are not enough of themselves to win battles. M. Hœnig, the author of a book entitled, *Traité sur la discipline au point de vue de l'armée, de l'État, et du peuple*, tells us that the recruits enrolled during the campaign had forgotten most of what they had learned at school. For some years the knowledge of these recruits was tested by examination. Now, the simplest facts of their own country were often unknown to these young men when they joined the regiment. "We collected a number of questions on the country of their birth. The answers were incredible. After the war of 1870-71, many did not even know the name of the Emperor of Germany." This does not prevent us from believing that the simple German

plicable, nor can it take its true place in the chain of events; we ought to know that the causes which will make the future already exist, not merely in the present, but also in the past, where we can—to a certain extent—judge of them in action. If there is any way of avoiding the mistakes of the past, surely it is familiarity with what happened in the past.

soldiers knew enough geography to find their way about the roads of the invaded territory. Geography in these days is no longer geography; it is, as has been remarked, encyclopædic — the universal science: astronomy and geology; mineralogy, botany, zoology, physics, history, and political economy; anthropology, mythology, sociology; it is linguistics and phonetics; the history of races and creeds, of agriculture, of industry, etc., etc. Estimated in this way, geography must be the most useful of subjects.

Tolstoï gives us an account of his perplexities on the subject of geography. After having explained cold and warmth, he came to grief when he tried to explain winter and summer. He repeated his explanation, and with the aid of a candle and a ball he made himself, "as far as he could judge," perfectly intelligible. They listened with much attention and interest; what took their fancy most was that they could learn what their parents refused to believe, and would be able to brag of their wisdom. After Tolstoï had finished, the sceptical Semka, the most intelligent of the boys, asked: "But if the earth moves as you say, how is our *isba* always in the same spot? It ought to change its position!" Tolstoï thought to himself: "If my explanation is a thousand yards beyond the grasp of the most intelligent of the boys, what can the slower children understand of it?" He began again, explained, drew illustrations, quoted all the proofs of the roundness of the earth—the circumnavigation of the globe, the mast of a vessel appearing before the hull; and other proofs; then fondly nursing the idea that they understood at last, he made them write it all out. They

all wrote :—"The earth is like a ball;" then the first, and then the second proof. "The third proof they had forgotten, and they came and asked me what it was. It was evident that their main effort was to remember the proofs. Not once only, but ten, a hundred times, I renew my explanations, but always without success. In an examination all the children would answer, and will now answer, satisfactorily enough, but I do not think they really understand; and when I remember that I was thirty before I understood it myself, I readily make allowance for them. Just as in my own case, they believe on the word of another that the earth is round, etc., but they do not understand it. Once I understood less than they did, for in my childhood my nurse informed me that at the end of the world the earth and sky met, and that there the *babas* wash their clothes and hang them out on the sky to dry. Our pupils are now grown up, but even at the present moment ideas, absolutely opposite to those I tried to inculcate, still persist in their minds. It will take a long time yet to efface these explanations and the image they form of the universe, before they can understand." To this the answer is, that we must not flatter ourselves that we are ever perfectly understood by the young when we are treating of matters which, after all, are really beyond their grasp. The faculty of understanding, with all other faculties, takes time to develop; the essential step is therefore the first, the only step which costs any effort, and it is always good to have that step over. To postpone till later what cannot be entirely understood to-day is a bad plan; later there will be so much to learn, and above all it must be prepared for. We must take the mind in

hand at an early period if we wish to bend it to a kind of gymnastics.

Just as in history the idea is to begin at the end, so in geography the idea has gradually taken root and grown that we must begin with the school and the village. The experiment has been made in Germany. Tolstoï, discouraged by his attempts to teach ordinary geography, began with the class-room, the house, the village. "As in the case of drawing plans, these exercises are not useless; but to know what comes after our village scarcely interests them at all, because they all know it is Téliatinkis, and they are not at all interested in what comes after Téliatinkis, because no doubt it is a village just like Téliatinkis, and Téliatinkis with its fields does not interest them in the least. I tried giving them centres of reference, such as Moscow and Kief; but they got so muddled that it came to simply learning by heart. I tried map-drawing, which amused them and helped the memory. Then the question again occurred—why should we help the memory? I tried once more stories of life in the polar and equatorial regions; they listened with pleasure, and were able to repeat them all afterwards, except the geographical part. In fact, drawing a plan of the village was drawing plans, not geography; map-drawing was drawing maps, not geography; stories of animals, forests, towns, ice, etc., were stories, and not geography. Geography was only what they learned by heart." The children, Tolstoï adds, remember the story, but rarely retain the name and position on the map of the district in which the story is laid; events are all that are generally remembered. "When Mitrofanouchka studies geography, his mother says to him: 'What is the use of

learning all those countries? The coachman will take you wherever you want to go.'" Tolstoï thinks that nothing more damning has ever been alleged against geography, and that all the scientists in the world cannot answer this invincible argument. "I speak very seriously. What is the good of knowing the precise position of Barcelona, when I have reached the age of thirty-three, and have never felt the want of that information? A description of Barcelona, it seems to me, could not develop any intellectual faculties, be it ever so picturesque. What is the use of Semka or Fedka learning the Marüne canal and its source, if, as far as they can judge, they will never be anywhere near it? And even if Semka should have to go there, it does not matter a straw whether he has or has not learned about it before; he will learn its navigation by practice, and will learn it well."

It may be asked how far it is wise to lay stress throughout many lessons on the school and the village. It is never a good thing to make men or the world any smaller, even in the child mind. The moment the school, the village, and the children themselves become the centre of interest, the children will consider it perfectly useless to trouble their heads about other lands which do not affect them directly. It may be answered that these preliminary and exclusive lessons are only a starting-point; that may be so for you; but children, whose minds are as small as their legs, become prone, if we do not take care, to limit the world to their immediate horizon, and to make a universe of the little world within their sight. It would be far safer to make use of the love for the marvellous by which children are possessed, to interest them in distant countries. Since they so readily

remember stories of animals, forests, etc., it is not impossible, by frequent repetition, to connect the events with geographical names. A child's memory is a good servant, always ready for work, provided the effort be not of long duration. I have known a little boy of three and a half to be keenly interested in America, and to remember the name perfectly, because he had been told that the sun shone there in our night, so that the children in that extraordinary country were getting ready for play when he was thinking of going to sleep.

I may add that it is not a matter of such indifference as Tolstoï supposes to absolutely ignore countries the children are never likely to see. It is a well-known fact that as we travel our minds expand, therefore we ought, at least, to get the children to lend a ready ear to all sorts of stories about different countries and their inhabitants. Besides, Tolstoï later on is forced to confess that reading travels must necessarily be useful. Finally—perhaps especially—it is wise to introduce method into education, so that we may control and direct the child's powers, and prevent them wandering by the way. Sequence in idea and effort by no means implies prosiness. Only do not forget that by discussing the interest of a thing we *ipso facto* almost refuse to acknowledge that it has interest; and that, on the other hand, a kind of official interest is attached to all work done without an *arrière-pensée*,—an interest that the children will have for good or evil at their service, if they are not left sole judges of what is or is not useful, if they are not left of their own will to abandon or pursue the work they have undertaken to do.

We certainly cannot take Tolstoï as our guide, for

he is a poet in the pursuit of an utopian method of education—a method without rules or discipline. But there is a measure of truth in his psychological observations on geography. Geography is a pretext for learning a multitude of subjects; it is in itself an unpleasing subject, and ought to be reduced to what is absolutely necessary. To adopt Tolstoï's plan, with less dilettante pupils, we would start from the geography of the district, and proceed to the description of more and more remote countries, telling how they were discovered, the manners and customs of their inhabitants, and the productions of the soil. In a word, what must be taught by the aid of geography is human, national, and international life.

In conclusion, whatever form of science has to be taught in school, teaching must never be a matter of memory, erudition, or pure knowledge, but rather of intellectual, moral, and civic training. To maintain the balance between the various branches of instruction, to take the essential part of each, and to reject without hesitation every intrusive detail,—that is the task of education. Its object, and its only object, is mental development, not in a single direction, but in all directions; to lead the mind, in the most general possible way, to the crest of contemporary science, and finally to "launch it upon the waves." In the sequel, from whatever quarter the wind may blow, any direction will be favourable to the mind thus prepared.

CHAPTER VI.

SECONDARY AND HIGHER EDUCATION.

I. *Object of a Classical Education.*—Ancient and modern languages as means of education—Method in the study of literature—Necessity for giving the study of literature a more philosophic character.

II. *History.*

III. *Science.*—Its advantages and drawbacks—Methods of scientific instruction.

IV. *Technical Instruction.*

V. *Competition and Examinations.*

VI. *Higher Education.*

VII. *The Great Schools.*—The École Polytechnique.

I. *Object of a Classical Education.*

A secondary classical education should develop the faculties of young people harmoniously and for their own sake. It employs for this purpose the great truths, the beauties of poetry and eloquence—in fact, that part of morality and goodness which is inherent in the works of the best moralists, philosophers, poets, and men of letters. Two conditions are necessary—models and practice. The models should be really classical—*i.e.*, displaying literary beauties in all their purity and perfect harmony. It is not a question of ascertaining where the most genius lies, but where we shall find most of those qualities that we can imitate, and the fewest of those faults we can avoid. We do not hope to implant genius in children; give them

taste, a love for the beautiful, a critical sense, and at the same time a certain ability to think, and a talent for composition and style. Now, the models in question are all given. In regard to them there is no dispute: if we can teach enough Greek and Latin to make children study the masterpieces of antiquity, no one will deny that they will have the best literary education, just as a study of Greek sculpture or Italian painting is the best education for the plastic arts.

Greco-Latin antiquity has one quality of supreme importance from the pedagogic point of view: it is not romantic. There is therefore no risk of developing in the young a wandering imagination, sometimes straying in pursuit of chimeras, sometimes lost in idle reveries; there is no longer a risk of developing a more or less factitious sentimentality. Transporting the young into an environment distant and different from our own, it prevents them from becoming prematurely familiar with that side of modern literature which is too impassioned and too exciting. At this distance of time that unrest is gone, all is reduced to a beauty more intellectual than emotional. Besides, *reason* is the leading characteristic of ancient, and especially Roman, literature, and children want reason, good sense, and good taste more than anything else.

Objection has been taken to the difficulty of the classics and the length of time devoted to them, and it has been proposed to substitute modern languages in their place. The answer is—that in practice the teaching of modern languages would inevitably tend towards practical expediency; its main object would eventually be to learn to *speak* foreign languages, for they irresistibly present an aspect of immediate and

obvious utility. Besides, the great English and German classics do not possess the classical qualities in a sufficient degree. Modern literatures are sometimes rather barbarous, sometimes too refined and unbalanced, almost always too passionate, too much invaded by what Pascal called the *amorous passions*. Woman is the inspiring muse of modern literature, and there is a danger of getting the minds of children possessed with the "eternal womanly." The loves of Greeks and Romans are so far off and so vague that, as a rule, they do not have the same disturbing influence. And at any rate we can rapidly pass over that sort of thing, and choose passages relating to love of fatherland, or to domestic life. In fact, we are hereditarily and historically connected with Greek and Latin antiquity: there is nothing more natural than that this connection should be maintained, for after all the Greeks and Latins remain the incomparable masters of literature. As far as we know, they have not deserved to be hunted away by either Teutons or Saxons. What would be gained by it? After the seven or eight years at college always necessary to a complete education, the same ignorance of Latin and Greek of which we complain at the present moment would be found to exist with respect to German and English. It is not linguistic acquirements we have to consider, but the acquired development of mind and taste. From this point of view let the old classics—the masters of the French classics—remain a part of the curriculum.

Free oral translations have been adopted in the French colleges instead of long written exercises; semi-passive exercises instead of active exercises, themes, verses, speeches. In my opinion this is a

false step. It used to be thought that the important thing was to *know* from end to end as many classical works as possible ; but it is not a matter of quantity. Besides, the ancients—not only Homer, but almost all the rest—nod a good deal. A classical fragment thoroughly studied is worth a whole book read in haste. To be attached to an author, to penetrate his thought in every phrase, to follow it by comparing one phrase with another—that is what gives strength and logic to the intellect. Besides, there is involved in this method a careful study of form ; the author should be faithfully interpreted, nothing must be added to or taken from his meaning ; the sense, movement, colour, and harmony must all be faithfully exhibited : this kind of work makes a language plastic. The writing of a speech, given nothing but the subject and correlative historical facts, teaches how to find the ideas and sentiments in keeping with the particular circumstances or character, and forms an exercise in psychology. The professor, be it understood, ought to inspire his pupils with a love of truth, and with a wholesome contempt for declamation, and ought to bring to their notice as frequently as possible the real speeches given in history.[1] For French composition he must seek out subjects familiar to the student, into the treatment of which they will introduce their observations, sentiments, and impressions—in fact, themselves. Bersot objects to Latin speeches, that in order to succeed in them the pupil has first to think with great effort in French, and afterwards translate his thoughts with great effort into Latin ; in this extreme labour of thought and writing the pupil's thought and its expression are

[1] *Vide* Bersot, *Questions d'Enseignement.*

both wide of the mark. The answer is—that every work of art and style demands effort and repeated trial; that is what makes it useful. The Latin of the pupils, says another critic, is a collection of expressions and turns which besiege their memory and beat at the doors of the mind to gain admittance; these expressions and turns are from all authors and from all periods promiscuously; the pupils mark as preferable what has struck them as being most remote from usage, so that the uniform flow of the language escapes them. What does it matter? We do not learn Latin to talk Latin, nor to write the pure Latin of a single epoch: that is mere gymnastics. We must not dwell so much upon the result as upon the effort of arrangement, composition, and expression. Latin verses are better still; they are an introduction —imperfect, no doubt, but nevertheless very useful— to the language of poetry, its association of images, its harmony, and its rhythm. Written translations are a capital exercise in logic and style. Narratives are excellent, provided, as has been said, "that the narratives of history are historical, and that in other subjects the student is not expected to write upon a topic of which he is ignorant." Scientific, philosophical, moral, and literary dissertations accustom the pupil to reason and to form a judgment; literary analysis accustom him to seize the essential characteristics of a work. These exercises, different in kind and wisely alternated, strengthen the mind and make it flexible. But above all, verses—Latin verses—are pre-eminently *the* literary exercise; a student who has never written a Latin verse is not really a man of letters. Latin verse develops the poetic instinct, without persuading the student that he is a budding

poet, without intoxicating him beforehand with the triumph of the *salon*.

No exercise can therefore replace either verses, speeches, narratives, or dissertations in literary education. Their invention is sometimes ascribed to the Jesuits as a crime, sometimes as an honour. But, in fact, poetry and eloquence have always been the basis of literary teaching. It was so in India, Egypt, Greece, and Rome; we followed the same course ourselves until recent days. M. Maneuvrier says, with considerable justice, that there is essentially an orator and poet within each of us; this poet or this orator emerges at a given moment to express our emotions, passions, or ambitions. Literary culture addresses itself to these intimate forms of our being, to these essential elements of our humanity; and that is why it is called the supreme interest of education. Now, how can we best introduce the young to poetry and eloquence? Will it be enough to narrate history to them? Will it be enough to make them read? Is a sculptor formed by "listening to tales of Michael Angelo, or a painter by being shown 'Moses and the Holy Family'?" No! Composition, construction of verses—even of bad verses,—of speeches—even of bad speeches,—of narratives, and of descriptions, are all necessary. By learning to set our ideas in order we acquire new ideas, the result of association and suggestion.

No doubt we must not fall into the exclusive worship of form; but there is a sure way of preventing that: introduce early into our classes moral, civic, æsthetic—in a word, philosophical—studies. If we add scientific instruction of an equally philosophical and even æsthetic character, which will display the noble and beautiful side of truth, we shall accustom

the pupils to think and feel, and not to speak unless they have something to say. To unite, co-ordinate, and at the same time to simplify literary and scientific studies, a middle term is needed, viz., the study of moral and social science, of the philosophy of history, the philosophy of art, and the philosophy of science. Not only to the higher order of minds, but also to minds less cultured and incapable of initiative, is philosophy useful. This is not because an average mind cannot retain a certain number of precise details,—quite the contrary; but it is the main lines of connection between facts that escape them. Even a thorough scientific training in one fixed subject will not bring these main lines to view; just as little can literary training do this; philosophical training alone, by widening the mind, will bring them home to the student.

II. *History.*

History has been rightly called "a great cemetery." The most learned historian is he who best knows the names of the dead, who has deciphered most epitaphs on human tombs. For the mind which makes of history its exclusive study, it may remain as barren as death itself. History derives its special value from its social and philosophical side.

There is a continual tendency to give more prominence to history, as well as to the sciences, in the study of the classics. This is a mistake, and opposed to the opinion even of our best historians. When M. Fustel de Coulanges, in an inaugural lecture at the Sorbonne, took as his subject the origin and growth

of Roman institutions, he devoted part of it to demolishing commonplaces which vaunt the great utility of history. "We shall study history," he said, "purely for its own sake, and for the interest of which the knowledge of its development admits." M. Fustel de Coulanges made light of the alleged fruits of experience which this subject is supposed to supply to statesmen and political leaders. "A statesman who is thoroughly familiar with the needs, ideas, and interests of his own times, will have no reason to covet any historical erudition whatever, though it be more complete and more profound than his own. His familiarity with the needs of his day will be of far more value to him than the much belauded lessons of history." History, he continues, may even lead us astray, if we do not sufficiently realise the difference between the present and the past. "I by no means wish the world to be governed by historians," says M. Lavisse. "Between politics and history are essential differences, especially in this country, where there exists no historic force bequeathed by the past and having an influence which must be studied in order to control it. The politician need not be a learned historian: it is enough if he knows the ideas, passions, and interests which underlie the opinions and acts of contemporary France. It seems to me that a really good historian would be a poor statesman, because his veneration for the ruins of antiquity would prevent him from resigning himself to necessary sacrifices." In fact, it would not do to entrust sanitary reforms in Paris to the Société de l'histoire de Paris et de l'Ile de France; archæologists are capable of feeling respect for a fever—if it lives in an old palace. However, if history gives no precise notions which can be

employed in this or that part of the art of government, does it not explain the qualities and defects of the French temperament, which on pain of death it is necessary to control? Does it not warn different forms of government of the dangers peculiar to them? Does it not teach patience, moderation, and trust in the work of time? And lastly, does it not teach us our relations with foreign countries?

The teaching of history and geography is carried on too much by passive methods; it is a monologue from the master, an academical lecture followed by questions summing up the previous lesson; the pupils take shorthand notes, and afterwards transcribe and learn part of them by heart. It would be a good thing to teach pupils about documents and ancient remains; and how varying evidence is checked, criticised, and verified.[1] They ought to be conducted

[1] It is extremely difficult to imagine how hard it is to get at historic truth, even in the case of recent events of which there have been numerous witnesses. M. d'Harcourt gives a curious instance of this difficulty — or rather quasi-impossibility — of recognising events as they really took place. He takes the report of Marshal MacMahon on the battle of Solferino.

"It was on the day after the battle," says M. d'Harcourt, "and we were still on the summit of the ridge where the battle came to an end. Lying or sitting in a very narrow space, we could none of us do anything without the knowledge of the rest. The Marshal asked the general at the head of his staff to prepare the outlines of a report. The latter ordered two of his officers to draw up this document, and they immediately set to work. It seemed easy enough. The whole field of battle was in sight. All the staff-officers who had carried orders were there within a few yards. The very source of the most trustworthy and complete information was at hand. The officers therefore drew up their report with a full knowledge of their work; but when it was handed to the head of the staff, he objected, and asserted that the affair had taken place quite differently,—the enemy was at that moment in front and not on the left,—the enemy had been hurled back by this corps and not by that,—a movement only mentioned cursorily

on historical excursions, like those made by geologists and botanists: sites of battles, old streets, pictures and statues, cathedrals and town halls, manuscripts and old books in libraries—all these should be visited. The different pupils should each have a personal task

had decided the day, etc. In short, the whole report had to be remodelled under the direction of the general. When the corrections were made, the report was handed to the Marshal; but scarcely had he perused it than he declared it incorrect from beginning to end.—'You are utterly wrong,' he cried; 'the flanking movement took place much later; I remember perfectly the orders I gave and why I gave them.' 'But,' expostulated the officer he was addressing, 'you gave the orders to me, and I also think I remember them.' In short, the report already once corrected, was corrected again, until nothing was left of the original." Now, to make a general report on a battle, all the reports bearing on different details have to be cut down in one place, supplemented in another, and finally combined into one. Thus, continues the narrator of this episode, documents relative to an event only lasting a few hours, and taking place in the broad daylight, although apparently most authentic and written without any bias by men who had the best opportunity of knowing the facts — these documents can only inspire us, as far as details are concerned, with very moderate confidence. What then will be the case when the question is of political events, when intrigue will play its part, and the actors will be led by party passion to represent history in different aspects? From this difficulty of obtaining an exact knowledge of facts, M. d'Harcourt is led to the conclusion that no very solid basis is given to social science by history. In his opinion, individual experience—*i.e.*, the knowledge of a very large number of facts, such as occur in the natural course of events, the knowledge acquired not by accounts or various readings, but by personal observation, first hand, after a ripe age and experience in public affairs—constitutes the safest means of investigation in every study of human society, and in most historical studies. "No book can replace experience. Experience is best calculated to throw light upon the affairs of men; it enables us to penetrate their motives much more surely than history alone, which is always uncertain in itself, *always obscure to the man who has had no practice in public affairs.*" We cannot fail to recognise that there is much truth in these words.—For some extremely valuable and suggestive remarks on this point see John Morley's *Miscellanies*, vol. iii., pp. 15-25. (Tr.)

allotted to him ; they should be taught to form their own opinions, not to be credulous, and not to make up their minds too rapidly.

III. *Science.*

Outside the sum total of the narrow and positive science indispensable in practical life all restricted scientific instruction is sterile. It may be vague, but at least let it be broad, for general views, and the perspective in which science displays objects, are worth far more than the actual knowledge of the things themselves ; the facts acquired are of far less value than the inductions drawn. In a word, even the science of nature, if I may say so, is especially valuable from the *humanities* contained in it.

Scientific instruction develops the reasoning power less than one might think, for it provides the mind with facts and prepared formulas ; it does not exercise the power of thinking for one's self. It does not communicate that initiative which is the basis of all personal thought. In addition, it scarcely affords any culture of the imagination which is especially exercised by æsthetic education. Philosophical training and a good literary training on proper lines alone develop the reasoning power. Mathematics, with their severity and their apparent precision, may teach the student to hide the weakness of reason under the force of ratiocination ; they give simple formulas which are incapable of grasping reality, and destroy "that spirit of *finesse*" which is the common-sense of life. Mathematicians fancy that their formulas are infallible because they are drawn from

mathematics, and they have a formula for everything; everything is classed, ticketed, and in such a way as to preclude discussion: how can one dispute with a formula? Even in physical science the teaching excludes every possibility of doubting the facts recognised and registered by science. It is true that in certain cases the master, if he has the necessary apparatus, can give, before the eyes of his pupils, a practical demonstration of the truths he teaches. But this demonstration is a mere "illustration" which can in no way develop the mechanism of inductive reasoning. Herbart was right when he said that science teaching in the colleges will always eminently favour the deductive faculty: for the contrary to take place the pupil ought to be able, as in grammatical and literary exercises, to incessantly verify and check any law that is not self-evident, or is not imposed upon the mind with irresistible force. We are allowed to question the correctness of an application of grammatical rules or of an expression; the pupil may without any drawback criticise it, take it as doubtful, or hesitate before applying the rule; but we cannot imagine ourselves "questioning the accuracy of a table of logarithms, or of the laws of gravity."

In scientific teaching the essential point is the method; in these days it is passive, and very often ends in merely mechanical work, in editing—the work of the drudge and the copyist: active methods must be substituted for passive. Teach a little science, but teach it scientifically—that is to say, by reconstructing the science and making the student reconstruct it. The students ought, each in his turn, to handle the apparatus and make experiments; the pupils ought to carefully keep the apparatus, and make collections of plants

and minerals—to go botanising.[1] We do not present with sufficient force the connection between theory and practice; we do not give the pupils habits of accuracy and observation. We ought to commence with the study of physical and natural science, without forgetting that knowledge which is of daily use through life, such as hygiene, with the notions of physiology upon which it is based. "There is scarcely anybody," says Spencer, "to whom you put the question, who has not in the course of his life brought upon himself illnesses which a little information would have saved him from. Here is a case of heart disease consequent on a rheumatic fever that followed reckless exposure. . . . Yesterday it was one whose long-enduring lameness was brought on by continuing, spite of the pain, to use a knee after it had been slightly injured. And to-day we are told of another who has had to lie by for years, because he did not know that the palpitation he suffered under resulted from overtaxed brain. Now we hear of an irremediable injury which followed some silly feat of strength; and again, of a constitution that has never recovered from the effects of excessive work needlessly undertaken. . . . Is it not clear that the physical sins—partly our forefathers' and partly our own—which produce this ill-health . . . make life a failure and a burden instead of a benefaction and a pleasure?"[2]

IV. *Technical Instruction.*

The new technical instruction undertaken by the lyceum, wrote Bersot, is so far mischievous that the

[1] *Vide* M. Maneuvrier and M. Blanchard on this subject.

[2] Spencer, *Education*, p. 15.

other pupils despise it, and "mark their contempt by the name they give it . . . they are so convinced of their own superiority that they convince even those upon whom they heap their contempt. . . . The prejudice is so strong that students do not enter for these professional courses, but fall into them." In my opinion there is a very just feeling in this contempt—the sense of the danger which is now becoming more and more menacing to classical education. M. Frary himself recognises that the "experiment has failed." If we persist in this course we shall eventually disorganise classical education by trying to organise the other. Then we shall see unfolded the whole logic of consequences. We shall no longer consider in instruction anything except what will or will not be useful to the future profession. Then Latin and Greek will be useless. Most parents will say, What is the use of them? And this will suit the idleness of the children very well. Presently the whole of France will be full of short-sighted utilitarians, and classics will have had their day. The *élite*, whom they profess to form by means of a classical training, losing the instruction common to pupils receiving technical training, will hardly exist at all, or will be reduced to the infinitely small.

Besides, all precocious specialisation is dangerous. A given individual is never one, but several individuals; some children first resemble their father, then their mother, and thus successively represent a series of types distinct both morally and physically. We cannot therefore flatter ourselves that we can lay hold of the man in his final aspect either in the child or even in the youth; we can therefore never foresee all the possibilities in a character, all the aptitudes which it will develop. Hence the danger of

all education which prejudges too hastily the tendencies of the child. The only object of technical instruction, for instance, should be to awaken aptitudes, and never to respond to aptitudes supposed to exist. Without this it is a mutilation from which a whole life may suffer. Once again, it is not a fixed and crystallised individual that the educator has to deal with; it is the shifting series of individuals, a *family* in the moral sense of the word as well as in the sense in which it is taken in natural history. A specialist is very often utopian; his sight is distorted by the narrowness of his horizon. All precocious specialisation is a disequilibration. To make a soldier, an engineer, or a musician, is not necessarily to turn out a man in the full possession of all his faculties. Moreover, we must take into account the failures, the rejection of candidates at entrance examinations, etc. Out of the thousands of candidates for the École Polytechnique, for instance, only 300 are admitted; now if a good polytechnician is not necessarily an accomplished man, what will a polytechnician who has failed be?

V. *Competition and Examinations.*

We are familiar with the drawbacks of competition, and especially of those examinations with long programmes, causes of expenditure which can be with difficulty recuperated, and further, which can only set in active motion one special organ of the brain, the memory; examinations do not even strengthen that organ, they exhaust it. The only good thing in competition is the emulation it develops; but this emulation

only acquires its tension or becomes discharged with a view to a frequently fictitious result—superiority for a single day on one particular point. Very often emulation stops there, and thinks the rank it has gained fixed and final. Competition gives a verdict which checks the winners by giving them an exaggerated consciousness of their value, the losers by discouraging them. It is emulation discontinuous and disorganised, instead of being, as it ought to be, a mode of organising emulation. It may be said that it is not a bad thing that men should from time to time come to the top, but it is a bad thing that men should ever be at the bottom. The Bachelor's degree ought to be nothing but the last of the pass examinations, as it was once happily defined, the pass examination from the college to the "Faculty." Custom has made something else of it; too often success is attained by artificial and hasty means of preparation. Troubles of every kind are the natural result; numbers of students willingly flatter themselves that it will be possible to make up in rhetoric and philosophy for the time lost or wasted since they left the sixth. A number of masters are led to consider the requirements of the examination as guiding their teaching, of which they thus diminish the liberty, the elevation, and the general and generous scope. Certain eager spirits can see only one hope of safety—the extinction of the *baccalauréat.* They wish to replace it by special entrance examinations to the great schools, Faculties, and government offices. This solution of the problem would only accelerate the ruin of classical education. The scholars would cease to be interested in anything but the particular subjects required at the entrance to the different

professions. The unity of secondary education would be broken, the college would be transformed into a confused group of preparatory schools in which primary knowledge would be the only connecting link. We must clearly combine the Bachelor's degree with a pass examination, as in Germany.

VI. *Higher Education.*

According to the theory adopted in Germany, the technical schools only take up one part of knowledge, whereas the universities have as their object the bringing together of all those parts and making a synthesis of them. The schools take up applied science; the universities aspire to pure science; the schools turn out the workmen who apply discoveries; the universities train the inventors who make the discoveries. "Schools are the realm of action, universities are the realm of light," said Père Didon in his book on the Germans. In an age when the limits of knowledge are ever receding, an isolated mind would despair, unaided, of discovering the unity of science; the universities, a body of men associated for this purpose, make this unity visible to every eye. "As the convolutions of the brain fold upon each other and eventually form the organ of thought, the different sciences ought to be combined into one single body called the Faculties, which are united in the universities, to form the great organ of collective and national science."

Of this ideal the German universities are beginning to lose sight. Every university, says Deputy Lasker, is dismembered by its division into special schools,

even the special subjects themselves are parcelled out. "The student becomes a scholar, and as obligatory lessons are abolished he silently acquiesces with his professor on the scanty syllabus of general subjects indispensable in examinations. He does not want to be dragged in several different directions at once, and afraid of discursive study in work of which the subject matter is ever increasing, he narrowly confines himself to a course which will be directly practical. Whoever does no natural science, leaves the university without the slightest idea of the most important discoveries in Nature. The elementary principles of political economy, of literature, of history, are amazingly unfamiliar to most of those whose special work has not embraced them. The class-rooms are side by side; the institutions belong to one great whole; the professors are still connected by the Faculties, the Senate; the general staff by the statutes and external organisation; but the intellectual bond is wanting; personal relations are relaxed, and the students are as separate as if the university were already divided into a system of special schools—each entirely distinct from the rest."[1] Another writer, who, though anonymous, is known to be a professor at one of the great German universities, has confirmed Lasker's statement. According to him, the professorial lectures no longer bring together different classes of students; each Faculty has its distinct audience. Go into a lecture-room where the "gentleman" is much in evidence, and you are in the Faculty of Law. In another room you see "a queer mixture of sheep's heads, with here and there a face showing character," —you are among the theologians. In a third, nearly

[1] *Deutsche Rundschau*, 1874.

every one wears spectacles; the cut of the hair varies between being brushed far back like a sheep's, or curled *à la* Raphaël; here is no ambition to lead the fashion; but the audience is unfortunate enough to present an almost complete collection of the fashions of the last fifteen years. Hats brown with wear, rebellious shirt-fronts and cravats, great ears, high cheek-bones, long elbows. There are exceptions, but they are rare. These men are attending courses on philology, history, mathematics, or the natural sciences. They belong to the Faculty of Philosophy, which corresponds to our two Faculties of Science and Literature; these students are future teachers in the gymnasiums. Each one lives apart from his fellows; even this Faculty is divided and sub-divided; philologists do not study literature, history students do not take up philology; and *à fortiori* literary and scientific men are entirely separated from each other. Thus the university, which, as its name indicates, should tend to the universality of knowledge, tends to exclusive specialisation.

In France, until lately, our Faculties had no regular pupils. Now each has its own *clientèle.* Hence the quarrel about open or closed lectures which divides the teaching staff. Some pronounce in favour of courses open to the general public; others propose to reserve lectures for students alone. The two things are not irreconcilable—nay, they have been reconciled. Public teaching "invites the whole nation, and even foreigners, to the study of science and literature—a study ever rejuvenated and renewed by the influence of the world of intellect. A public course of lectures is an intellectual school with its doors thrown open."

In the German universities the professor works surrounded by pupils and disciples. Several times a week he gathers them together to listen to his lessons, which he can multiply without any effort, because they are really only familiar conversations on the science which is his forte; he widens or contracts his syllabus, and is not worried by any programme but the interest of the audience. This frequent, often daily contact of master and pupils, in the opinion of M. Bréal, leads to the rapid attainment of great results. At first this system was introduced into the *École pratique de hautes études;* it has now spread into most of our Faculties. Now it has only to be generalised by combining public courses with private meetings, the special subject of which the professor may be at liberty to decide, and of which he may also have the power to fix the number and duration. The Faculty of Literature in Paris has not changed its old habits; it has proceeded "by addition," not feeling compelled to suppress anything. Once it had nothing but an audience, or rather it did not recognise the "legal existence" of the *bonâ fide* students, lost in the crowd; now it has organised those students into a regular body. The credit set down in the budget to meet the expenses of scholarships "de licence et d'agrégation" has ensured the existence and development of an institution which will do good service, even if it only amounts to a higher standard in the recruits of the teaching staff of the country. But, says M. Bréal, unfortunately these audiences are not yet students; they are always candidates. "They are called students; they have a restless spirit, a want of mental freedom, a longing to finish and be off." While in other countries the time spent at the

university is the happiest of one's life, while that life is willingly prolonged and entered upon with joy, "our scholars in for licentiate or fellowship examinations have but one idea—to pass their examination as quickly as possible." Thus the Faculties become merely combinations of special schools.

Again, in addition to the students who form the nucleus of the whole body, we must leave room for young people who have joined of their own accord. A large number of young people do not know how to employ their leisure time when they leave the lyceum. "He will study the law," says a father, speaking of his son, "and then we shall see!" That is how many young men take up law, says M. Lavisse, from inability to do anything else, although they are not destined for a legal career, and although a scientific or literary training would have been much more useful to them. "Every one knows a number of farmers, manufacturers, merchants, and idlers, who have in their youth crowded, if not the lecture-rooms, at any rate the registered lists of the Faculty of Law, whose proper place would have been in the laboratories or lecture-rooms of the Sorbonne. There they would have received not merely notions of more practical utility in after life, but that general culture which is only too rare in this country."

Our classification of the Faculties is artificial; to divide them into groups with distinct lines of demarcation is harmful to science. In literature and science we must return to the old custom still obtaining in most foreign universities; we must combine the Faculties, at present separated, into one *Faculty of Arts*, as it used to be called, or into a *Faculty of Philosophy*, as it is termed by the Germans. The

separation of the Faculties first took place in the Napoleonic university; it seriously injured nearly all teaching, and produced a kind of anarchy.

VII. *The Great Schools.*

The great schools are both necessary and dangerous. At the École Polytechnique they go in for nothing but pure science; the lectures form a great physico-mathematical encyclopædia; the instruction given is general instruction, expected to develop the scientific spirit, and to furnish each individual with the tools which will be most useful to him in his own work. In a word, the school produces neither engineers nor officers; its *rôle* is at once higher and more restricted than that of its neighbours; it simply has to prepare boys for the special training schools for engineers and officers. Technical instruction is given in these special schools, in the École de Fontainebleau, in the École du génie Maritime, etc., a two years' course; in the schools "des mines, ponts, et chaussées," a three years' course.

Unfortunately the polytechnicians are overworked before and during their stay at the school. It is a good thing to make a selection, but this selection ought not to end in a physical *extermination.* M. Lagneau tells us that a remarkably large number of invalids and insane has been produced by the *régime* of the school. Further, in the competition chance comes into play as well as capacity. Once in the school, the students rarely keep their first order of merit; sometimes the lists are almost inverted. The requirements of the syllabus ever

increase, and now they are so great that exhaustion must necessarily follow if a student passes. It is not, say MM. Cournot and Simon, that the school itself needs all this knowledge, but the examiner, finding choice difficult, increases the play of chance to lessen his own trouble. If there are only twenty questions, everybody will try them; if there are two hundred, the best pupil will be equal to one hundred and fifty. It is certainly awkward for him if he comes on anything he does not know, but the conscience of the judge is free from blame. So little by little the examiners get the habit of setting the most "catching" questions, which are by no means the most important.

The first of the harmful results of this is the invention of the "art of preparing for examinations," which takes the place of the "art of teaching science." While the examiner tortures the candidate and sets him enigmas in the form of questions, he is himself examined, studied, and seen through, by the preparatory teachers who form his audience. His wiles are discovered, his formulas noted down, his whims anticipated. If the same individual is always examiner, the success of the coach is certain. The coach no longer teaches science, but the art of answering a special person. Thus students are sent to the school that obtains most passes. They commence all the subjects very early, and go up before they are ready, so as to get accustomed to the examination. As M. Jules Simon says, "A boy is nearly certain to get into the École Polytechnique by this triple receipt: he must not be decidedly stupid, he must not fall ill, he must not be very unlucky." The university has professors, not coaches; but if it

refuses to adapt itself to this system of training, it will lose the student preparing for State schools; it is therefore imperatively obliged to follow the example of the rest. M. Cournot points out the singular contradiction that ensues:—"The State pays coaches to put examiners on the wrong scent as to the relative worth of the examinees, and pays examiners to baffle the craft of the 'crammer.'" It is said by some that competition is a good thing, that it is a spur to each of the competitors, and obliges each to do his best. M. Simon retorts that this is not quite so certain as they would like to make out, especially as far as teaching is concerned. As far as "cramming" is concerned it is absolutely false; for there is no contest as to who will turn out the best pupils, but as to who will get the most candidates through. Here the university submits to a *régime* for which it is not responsible. Unfortunately the École Polytechnique, like the École de Saint-Cyr, is under the control of the War Minister, who is not, as a rule, an authority in matters of instruction. All parents will bless the advent of one reform—the increasing the maximum age by two or three years. The Minister of War refuses it now because he refused it before. We can understand a rigid limit of age in the navy, because of the importance of becoming early accustomed to the sea; nevertheless, the young people who become first-class students when they leave the École Polytechnique are not necessarily bad sailors in consequence. But why should they not enter other professions two or three years later? No student under twenty-one is received in the École Polytechnique unless he has had two years' effective military service; and in the latter case he is allowed

to enter if no more than twenty-five on July 1st of the year of the examination. Now no harm can accrue to the École Polytechnique from receiving students at that age; and therefore it is a mistake to fix twenty as the limit of age, to the detriment alike of the work and the health of the students.[1] These two or three years would not be wasted, if they gave time for a solid instead of a hasty preparation. "The State schools would gain by it; and it would be an immense benefit to our colleges, for we should be free to study for the sake of study. Instead of, as at present, students for the civil professions going through the same mill as candidates for the State schools, both would escape methods of cramming and forcing, and would be instructed and brought up like men."[2] The École Polytechnique wants a picked set of boys; for that purpose it eliminates as many as it can, but under the guise of an elaborate syllabus, by a series of questions, problems, and, as the boys call them, "colles."[3] It would be far better to choose this *élite*, not from those who have overloaded their memories, but from those who have most talent, and who are not high-minded. The simplest remedy is for the École Polytechnique to admit only *bacca-lauréats ès lettres*, and then to draw up its own scientific programme of subjects for examination.

[1] *Vide* Jules Simon, *Réforme de l'Enseignement*, p. 361.
[2] *Ibid.*
[3] "Stumpers" (?). (Tr.)

CHAPTER VII.

THE EDUCATION OF GIRLS AND HEREDITY.

THE whole question of the education of women seems to be governed by the following principles:—

1st. Woman is physiologically weaker than man; she has but a small reserve of energy to make up for the considerable expenditure entailed by brain-work carried beyond certain limits. 2nd. The generative function occupies a far more important place in the female than in the male organism. Now this function, according to all physiologists, is antagonistic to brain expenditure; the disequilibration produced in the woman by intellectual work will therefore be necessarily greater than in man. 3rd. The consequences to the race of this disequilibration are much more serious in the case of the woman than in the case of the man. The life of woman, generally sedentary and under more or less unhealthy conditions, gives no time for recuperation to a constitution exhausted by an irrational education, whereas in the case of man recuperation may take place; on the other hand, the mother's health is of much more importance to the child than the health of the father. The man's expenditure in paternity is insignificant compared to the woman's; the latter needs a considerable reserve of physical and moral energy during gestation, maternity, and afterwards during the early education of the child. The mothers of Bacon and Goethe, though both very remarkable women, could not have written either the

Novum Organum or *Faust;* but if they had ever so little weakened their generative powers by excessive intellectual expenditure, they would not have had a Bacon or a Goethe as a son. If during life the parents expend too much of the energy they have drawn from their environment, so much the less will be left for their children. Coleridge, with all the gravity in the world, observed: "The history of a man in the nine months before his birth would probably be more interesting, and would contain events of greater importance than any that may occur in after life."

High authorities are of opinion that the more refined a woman's education becomes, the weaker her children will be.

Spencer, in his *Principles of Biology*, asserts that physical labour makes woman less fertile ;[1] and adds that the same relative or absolute sterility is generally also the result of overtaxing the brains. "If we consider that the regimen of girls of the upper classes is much better than that of girls belonging to the poorer classes, while in most other respects their physical treatment is not worse, the deficiency of reproductive power among them may be reasonably attributed to the overtaxing of their brains—an overtaxing which produces a serious reaction on the physique. This diminution of reproductive power is not only shown by the greater frequency of absolute sterility, nor is it only shown in the earlier cessation of child-bearing, but it is also shown in the very frequent inability of such women to suckle their infants. In its full sense

[1] Spencer, however, says: "To prove much bodily labour renders women less prolific requires more evidence than is obtainable."— Vol. ii. p. 484. (Tr.)

the reproductive power means the power to bear a well-developed infant, and to supply that child with the natural food for the natural period. Most of the flat-chested girls who survive their high-pressure education are incompetent to do this. Were their fertility measured by the number of children they could rear without artificial aid they would prove relatively unfertile."[1] Dr. Hertel,[2] a Dane, has ascertained that in the higher schools in his country twenty-nine per cent. of the boys and forty-one per cent. of the girls are in a precarious state of health from over-work : anæmia, scrofula, and headache are the most prevalent scourges. Professor Bystroff, of St. Petersburg, has collected information of the same purport. From these and many similar facts it may be concluded that the excessive work entailed by competition and examinations in higher education, dangerous as it is to the race in the case of boys, is infinitely more so in the case of girls. Fatigue of this kind, repeated for several successive generations, would eventually absolutely unfit the woman for her duties as a mother. The danger of too scientific a form of instruction is much greater for girls ; for, being more disposed to sedentary work than boys, they devote themselves entirely to mental work, and as a rule display more assiduity. Not merely intellectual work, but also close confinement, bad food, and insufficient exercise are equally responsible for these derangements of health. To this must be added the evenings spent in *soirées* among the upper classes, and in work of every kind by the poorer

[1] *Principles of Biology*, vol. ii. pp. 485, 486. (Tr.)

[2] *Overpressure in High Schools in Denmark* (Macmillan & Co.). Dr. Hertel adds chorea to anæmia, etc. (Tr.)

classes. Mr. Clark, an American, concludes that if this goes on for half a century it needs no prophet to predict, from the laws of heredity, "that the mothers of our future generations will have to be brought from beyond the Atlantic." By heredity, therefore, a kind of retrograde selection is produced, which is disastrous in its consequences; for the young girls of the educated classes, who might fairly be expected to raise the level of future generations, are either quite incapable of becoming mothers, or bring into the world puny beings, and thus leave to less cultivated but more robust women the care of perpetuating the human race.

"Mammas anxious to make their daughters attractive could scarcely choose a course more fatal than this, which sacrifices the body to the mind. Either they disregard the tastes of the opposite sex, or else their conception of those tastes is erroneous. Men care little for erudition in woman; but very much for physical beauty, good nature, and sound sense. What man ever fell in love with a woman because she understood Italian? Where is the Edwin who was brought to Angelina's feet by her German? But rosy cheeks and laughing eyes are great attractions. . . . The liveliness and good humour that overflowing health produces go a great way towards establishing attachments. Every one knows cases where bodily perfections, in the absence of all other recommendations, have incited a passion that carried all before it; but scarcely any one can point to a case where intellectual requirements, apart from moral or physical attributes, have aroused such a feeling. . . . Out of the many elements uniting in varying proportions to produce in a man's breast the complex emotion we

call love, the strongest are those produced by physical attractions; the next in order of strength are those produced by moral attractions; the weakest are those produced by intellectual attractions; and even these are dependent less on acquired knowledge than on natural faculty—quickness, wit, insight. If any think this assertion a derogatory one, and inveigh against the masculine character for being thus swayed, we reply that they little know what they say. . . . One of Nature's ends, or rather her supreme end, is the welfare of posterity; further, that in so far as posterity are concerned, a cultivated intelligence based on a bad *physique* is of little worth, since its descendants will die out in a generation or two; and conversely, that a good *physique*, however poor the accompanying mental endowments, is worth preserving, because through future generations the mental endowments may be indefinitely developed; we perceive how important is the balance of instincts. . . . But, advantage apart, the instincts being thus balanced, it is folly to persist in a system which undermines a girl's constitution that it may load her memory."[1]

Does it follow that woman should not be educated? So far from that being so, we shall even assert that she ought to be educated as far as possible within the limits of strength at her disposal. But instruction is one thing, and intellectual waste another. The problem in all education, and especially in the education of women, is to communicate the maximum of necessary and ornamental knowledge with the minimum waste of cerebral power in the child. Woman has in domestic life a *rôle* to play which she can never shirk; she has to morally and physically educate her

[1] Spencer, *Education*, pp. 187, 188.

children. It is for this function we have to give her the best preparation. Practical pedagogy, with domestic hygiene, is almost the only knowledge necessary to woman, and it is literally the only training she does not get. Moreover, pedagogy, being the art of teaching, implies *ipso facto* the knowledge of subjects to be taught; and if it is further admitted that, to give an accurate idea of things, her knowledge of them must be thorough, the way is at once opened wide to the activity and intellectual expansion of young girls.

Another class of knowledge corresponds to the *rôle* of woman, not in the family, but in society. Woman represents in human psychology the being in whom reside all the most energetic and powerful sentiments —pity, affection, "altruism," devotion; she ought to be the embodiment of tenderness, the sister of mercy of mankind. To woman politics would be barren and unpractical; but philanthropy is quite within her reach. Now the philanthropy of the day is a science closely bound up with the essential parts of political economy. It is the science which is the basis of all benevolent institutions; it is the science teaching us the direction in which we must proceed to assuage the evils of humanity, to alleviate in some degree the misery that seems eternal. By the pathway of philanthropy woman must approach political economy.

On the mother in particular rests the task of developing the heart. Maternal religion is the most inoffensive and most useful of religions. The tender reverence of the child is an act of piety. In the evening let the child kneel down; examine its conscience (a minute is quite long enough): "I am ashamed of my child; I want to be proud of you

to-morrow." After correction the mother should be more pained at having inflicted than the child at having undergone the punishment. The mother's great art is to condense all morality into filial love, which is necessarily its first form. The fear of giving pain to its mother is the first, and for a long time the only remorse felt by the child; this naïve remorse must be refined by the mother, made as deep as love itself, and the loftiest sentiments must enter into this formula. The mother's heart is the child's conscience; that heart should therefore be the human conscience in miniature.

In the education of woman we have to conciliate two opposing principles. On the one hand, having at her disposal less strength than man, woman cannot restore her energy after an equal expenditure of mental work; on the other hand, being destined to be man's companion and the educator of his children, she ought not to be a stranger to any of his occupations or sentiments.

It is only because intellectual labour is more and more imposed on young men that it is also imposed in the same way on young girls. To wish to suppress it almost totally in the case of the latter, for fear of checking her physical development, and with the object of restoring to man, by means of his mother, the bodily strength lost by the mental culture of his father, is to dream an idle dream. The child inherits not only the good but the bad qualities of its father and mother, and in many cases we should run the risk of adding to the delicate health of the father the mental lethargy of the uncultured mother. The mother who transmits to her child a robust constitution certainly gives him an inestimable gift, but if she knows how to develop

his natural good health, and how to bring intellect, energy, and will into existence from the vital powers of the child, her gift is doubled in value. Now this second maternity—a maternity of the heart and mind—is more difficult to prepare for than the first; and therefore it ought to occupy the attention of the educator at least in an equal degree. Before thinking of the future sons of a little girl, it is but rational to think about the girl herself, and that from every side, from a triple point of view—intellectual, moral, and physical. "If we dance faster than the violins we lose time," says the popular proverb; if we look too far ahead we may imagine what we shall never see. Besides, let those who think of nothing but the roses in a girl's cheeks remember that it is imperatively necessary, at least in the leisured classes, to open a field of activity wide enough for the intellect of a young girl—that intellect which nature has not refused her, and which will be turned to account one way or other, if it be only in the thousand trivialities and frivolities of which a worldly life consists. Now we become as exhausted, and we grow pale as much and even more if our life is idle, as if we led a serious and reflective existence. Further, the widening of the intellect cannot but give a point of support and a fresh impetus to the development of moral qualities which are more in evidence than we imagine beneath the freshness of a girl of eighteen. It is mere folly to suppose that an educated man will be content for long with a rosy-cheeked companion; with familiarity the brilliancy of the complexion loses its charm; but, on the other hand, moral qualities are always welcome; the cultivated mind insensibly becomes the daily companion. Long ago it was said that woman's true *rôle* scarcely

begins till she is married.[1] Let us no longer forget that many sons will resemble their mothers; the moral and intellectual worth of the latter is not therefore without importance in the development of the child's character. From these considerations it follows that the real point is to reform and direct, not to check, the education of girls. We have subjected boys and girls alike to the *régime* of extreme intellectual labour without troubling ourselves to repair

[1] "What an excellent adviser," says Stendhal, "a man would find in his wife if she knew how to think!" "The ignorant are the enemies of the education of women." "The basest of men, if he be only twenty and have ruddy cheeks, is dangerous to a woman who knows nothing, for she has nothing but instinct to guide her; on a woman whose mind has been cultivated he has no more effect than a handsome lackey." "Comparatively often a pretty young girl has a bad character, and turns out to be lazy. She soon becomes aware that her face gives her rights and privileges in the eyes of men, and that it is useless for her to attempt to acquire other qualities than the beauty she is so fortunate as to possess." "The desire to please places modesty, delicacy, and every feminine grace for ever beyond the disturbing influence of any possible education. It is as if we were afraid of teaching a bird not to sing in the spring." "Womanly graces are not due to ignorance; take, for example, the worthy village tradesmen's wives, or in England the wives of the wealthy merchants." "Most men have one period in their lives when they can do great things: nothing then seems to them impossible. The ignorance of women loses this magnificent chance for humanity. Love at the most gives a man a good mount, and makes him choose a better tailor." "All early experience must necessarily contradict the truth. Enlighten a young girl's mind, form her character, give her, in fact, a good education in the true sense of the word; sooner or later she is aware of her superiority to the rest of her sex, and becomes a pedant—*i.e.*, the most disagreeable and degraded person in the world. Rather than spend a lifetime with her, there is not one of us who would not prefer a servant to a learned woman. Plant a young tree in the centre of a thick forest, where its neighbours deprive it of light and air; its leaves will become sickly, it will assume a lanky, ridiculous, and unnatural appearance. A whole forest must be planted at one and the same time. What woman would be conceited because she knows how to read?"

the expenditure of strength involved in such continuous effort: this is tantamount to embarking for far-off seas without providing for any emergency. Bad hygiene is prevalent nearly everywhere, but among the middle classes, precisely where girls have to work most earnestly (for it is a matter of bread-winning with them), they are ignorant of the very elements. Hence the systematic exhaustion of boys and girls who have to provide for the twofold development of mind and body. Now the remedy is simple. If rules are presented to a woman as absolute, no one is stricter in their observance. Teach hygiene just as you teach housekeeping, and you will see woman as sternly opposed to any breach of the laws of health as to the presence of dust on her furniture. To give little girls every possible opportunity of regaining on the one hand what they lose on the other—good food, varied open-air exercise, plenty of sleep—will be in itself an enormous benefit, for it is a natural law that in healthy individuals all expenditure of energy has only to be replaced. The moralising influence of examinations, for boys and girls alike, in our present organisation of instruction, consists in the assigning of a definite object to the work of the young, and in accustoming them to effort, and to continuous effort; they must display power of will and perseverance, and that in itself constitutes superiority in all who are capable of it. Only it must be understood that the total result leaves much to be desired, if numbers of our young folk, especially girls, sacrifice the flower of their strength to obtain generally useless certificates.

If we are right at all in protesting against over-pressure, it is certainly here where we have to

deal with young girls who have little strength to spare. The protest must be raised against all knowledge not of general utility. Besides, nothing is so fatiguing as the irrational or the fastidious, for the mind ceases to feel interest in it; and when no curiosity is felt effort alone remains, thus doubling the sense of tedium. A young girl, whose sphere in life is not determined beforehand, ought to acquire a general view of the main lines of human knowledge, and ought not to be limited to an arduous, and necessarily restricted, erudition. The object of her education is to make no subject unfamiliar to her, so that as occasion arises she may apply her education to the given object. For the young girl knows even less than the young man in what direction life will carry her. A woman may be called upon to help her husband in his work, to watch over the studies of her sons,—at any rate in their early stages,—to educate her daughters: in addition we must reckon with the chances of life, and she may even have to bring up her young family by her own exertions. But it should be clearly understood that we have not to teach her everything, but to fit her to learn everything, by giving her a taste for study and an interest in every subject.

Similar emotional motives, says M. Rochard, urge children of both sexes to excessive intellectual work. Young men have diplomas to win, they have in view the laurels of the great competitions, or admission into a State school. Girls have their teaching certificate, and admission into the normal schools. The development of primary instruction during the last few years has created an attractive career, especially in the large towns. Primary

instruction affords to young girls a means of raising themselves above their condition in life, of leaving the condition of inferiority in which their family happens to be, of gratifying "the taste for pleasure that everything contributes to develop in them, and which we seem to make it our business to over-excite." To attain this end, there are no efforts or sacrifices which they will not gladly make. They abandon household cares, and devote themselves with increasing ardour to studies which only exhaust them, and very often end in delusion. From the attractions it offers, the profession of teaching is so overcrowded that it is nothing but a decoy. On January 1st, 1887, there were in France 12,741 young girls looking forward to this career; 4,714 out of this number—*i.e.*, nearly a third —were from the Department of the Seine. Now in Paris, in 1887, there were only sixty vacancies, of which twenty-five were allotted in advance to pupils leaving the École normale. The rest had to be divided among the assistants receiving a fixed salary, and they were not less than forty. From this we may form an opinion as to the fate which awaited the 8,567 young girls who were candidates for similar posts in the provinces. The ever-increasing number of applicants has forced the University to increase the difficulties. At every stage examinations have to be passed, and the curricula bristle more and more with subjects. The young girls who aspire to the École normale lead the same life as the candidates for the technical schools. The same anguish, the same emotions, the same desperate efforts at the supreme moment of the struggle; and they have less strength to bear it. Four or five hundred girls, from 15 to 18 years old, present themselves every year for admission to the

École normale of the Department of the Seine, and there are only twenty-five vacancies. As the pupils in this case are boarders, and all expenses are defrayed, and as a situation in the primary schools of the department is guaranteed on leaving, we may imagine the eagerness displayed in the competition for admission.

In Paris, where the new laws are bearing their first fruit, the administration annually disposes of fifty places; there are already three thousand applicants. What will become of the nine-tenths of these girls, whose future the State seemed to guarantee when it awarded them their certificates? It must undertake to create posts for women everywhere where they can with advantage replace men, which is now of rather frequent occurrence. They must be awarded a larger share in primary and secondary instruction. Nothing stands in the way of their employment in post offices, telegraph offices, etc., except that it is contrary to custom. It is desirable that more employment should be found for women in industry or commerce. First, competition for government appointments would become less keen: we should not have to fear the yearly increase in numbers of these poor girls who, having worked in vain, are without resources, and who have become unclassed. Many a tear has been shed for the little work-girl in her garret. The teacher without a situation and without hope is no less to be pitied, and must we not regret the new laws dealing with instruction of girls if the necessary consequence is that they "are taken from their own rank and made into governesses"? Instruction, no doubt, is an excellent thing when it prepares us for the work we have to do, but it ought not to give us a distaste for the

only duties which fall to our lot and are within our reach. Education, which would be a means of improvement and progress if things were well managed, ought not, by swelling the numbers of the unclassed and discontented, to become a cause of moral corruption and social disturbance. If the instruction so much complained of—of which we fear the evil effects—produce bad results, it is because it is not what it ought to be. Instruction should be of such a character as to usher and lead into real life, with better equipment and more skill, those whom its mission was to prepare for that life, instead of giving them a distaste for it, and making them seek to escape from it; less refinement in the ideas is needed, less erudition in the memory, less history and literary theories; more moral and æsthetic ideas, more manual training, more energy in the will, more practical worldly wisdom, more talent for invention.

The Berlin *Gegenwart* is of opinion that although the education of German girls has made immense progress, still it leaves much to be desired. "They are taught far too many useless things, dates, names, and rules, which will be of no use to them later, while we neglect what is of incomparably greater importance—to form and develop the future mother." We turn out "walking encyclopædias," and sometimes intellectual women, but never women really useful to society.

There is only one remedy for this state of things—to suppress a good half of the subjects at present in the curriculum, and to substitute for them subjects of really fundamental importance.

One of the prejudices, now become classical, is to assume that education is rigidly bounded by a

fixed end or limit, and that it ends in an examination, beyond which the educator has nothing to desire, beyond which the pupil has no further ambition. This difficulty is far more apparent in the case of the girl than of the boy, for if the examination usually opens out a career to the latter, it is generally perfectly fruitless to the former. After having taken her work at school in earnest, and devoted herself to it heart and soul, directly she has left school the girl feels the impulse given her suddenly checked ; hence a void in her life, a sudden suppression of all ambition but that of coquetry, of all recreation but the gossip of middle-class society. It is therefore essential, in the case of both sexes, to represent education as continuous, uninterrupted, and to be ended only with life.

There should be no time when we cease to learn. Examinations, which are only a rough process to ascertain with more or less certainty what we know, ought especially to be a means of showing us what we do not yet know. A syllabus is only good as long as it is not taken too much in earnest, as long as it is not a barrier to the student, a limit to intellectual growth. Bodily growth continues often after twenty; intellectual growth should have absolutely no limit but death. Inspire children, and especially young girls, with a taste for reading, study, works of art, and elevated amusements ; this taste will be worth far more than all *knowledge*, strictly so called, artificially implanted in them ; instead of a mind furnished with lifeless knowledge, you will have a mind at once living, moving, and progressive. Instead of allowing the brain to become atrophied by excess of expenditure, you will have a larger and

larger brain, capable of transmitting to the race loftier moral and intellectual dispositions, and that without prejudice to what is the basis of all the rest—physical and vital energy.

CHAPTER VIII.

EDUCATION AND "ROTATION OF CROPS" IN INTELLECTUAL CULTURE.

Danger of maintaining a race under the same social conditions, especially in a high state of civilisation—Necessity for change of occupation and environment—How intellectual superiority may be dangerous to a race—"Rotation of crops" in intellectual culture—The choice of professions.

THE prolonged continuance of a race under the same social conditions is generally fatal to the life of that race. In fact, every social condition involves something conventional, and if the sum total of conventions is opposed to the healthy development of life in *one single point*, even if it be favourable on all other points, this harmful action, increased by time, will disequilibrate the race with a certainty proportional to the degree of its adaptation to this artificial environment. The result will be insanity, or the extinction of the race. Accordingly, since it is impossible to meet with a social environment perfect in every detail from the hygienic point of view, the only hope for the vitality of a race lies in a change of environment, which corrects the evil influence by influences in a contrary direction. Improved means of communication, by facilitating, so to speak, combustion and ventilation in the great social furnaces, only makes the danger more pressing. One of the results is the frightful increase of madness in towns.

There are 530 cases of madness to every 100 of tubercular meningitis.[1] London, in this respect, exceeds the average by 39 per cent. Similarly, suicides increase in number daily: the suicides at Paris are one-seventh of the suicides in the whole of France, and those of the Department of the Seine a tenth. Excessive strain in the struggle for existence, toil in unhealthy workshops, alcoholism, debauchery made easy, nervous contagion, an impure atmosphere —these are the perils. The life of the social organism, like that of all other organisms, is maintained by combustion; and it is not foreign material that is burned in the most active furnaces of life, but the living cellules themselves. The present social order creates on the one hand an idle class, on the other an overworked class, and holds out to the overworked, by way of ideal, the state of the idle—a state not altogether to be envied. To do nothing leads to wanting everything, without having the power of accomplishing anything; hence the fundamental immorality of the idle,—that is to say, of a whole class of society. The best means of limiting and regulating passion is continuous action; and at the same time this action is the means of satisfying whatever there may be in passion reasonable and conformable to social laws.

It may not be intellectual superiority in itself which is dangerous to a race, for, on the contrary, this superiority gives the race an advantage in natural

[1] There is a general opinion that there is more tuberculosis of the lungs in the insane than in the sane. Dr. Clouston found an hereditary predisposition to insanity in seven per cent. more of the insane who were tubercular than in the insane generally.—*Vide* Maudsley, *Mind and Body*, pp. 97-99.—Mercier, *Sanity and Insanity*, pp. 184-233. (Tr.)

selection. The danger is in no superiority, whatever it may be, but in the temptations of every kind that superiorities bring in their train. The temptation most difficult to resist in our modern society is that of completely exploiting our talents, of extracting from them every particle of practical profit, and of bartering them for the maximum money and honour they can give. It is this unlimited exploiting of superiorities which renders them perilous. The fact is so incontestable that we may see it verified in the very forms of superiority which seem the most certain guarantee of survival—those of physical and muscular strength. If a man is so remarkably strong that he thinks he can turn his strength to account and become an athlete, he considerably diminishes the chances of existence for himself, and consequently for his race. Physical strength is blended to some degree with the very conditions of life; but to wish to exploit the conditions of life is to alter them. The best principle of all moral hygiene would therefore be to persuade the individual to spare himself, not to consider any talent in himself or his children as a goose laying golden eggs, and finally to look upon life as having to be, not *exploited*, but preserved, increased, and propagated.

The consequence of this principle of physiological economy in education is the art of measuring and directing culture, especially intellectual culture; of not making it too intense, too limited to a single point of the intellect, but of always proportioning its extension and intension. The alternation of culture in the race should be a principle of no less importance. Rotation of crops ought to be as elementary a rule in education as in agriculture, for it is absolutely

impossible to successfully cultivate for an unlimited period a given plant in the same soil, or a given aptitude in the same race. Some day perhaps a distinction will be drawn between the occupations likely to exhaust or improve a race, just as a distinction is drawn between plants that exhaust or improve the soil. The most healthy occupation, beyond dispute, is clearly that of the labourer or country gentleman; and the way to preserve a succession of generations at once robust and brilliant would be to make them live alternately a town and country life; to make them recuperate in the vegetative life of the peasant whenever they are exhausted by the nervous and intellectual life of the inhabitants of towns. This ideal, which is far from being attained in France, might be easily realised, for we see it very often in England, where the importance of landed property, and the habits of a life a little less refined than ours, make the English aristocracy and middle class pass the greater part of their whole existence in their mansions or cottages, and give themselves up to those rural occupations which are an outlet for the energy of the whole organisation.

Without in the least wishing to trace the line of conduct to be followed in so complex a juncture as the choice of a profession, I think that it is the educator's duty never to press the son to follow his father's profession, at least whenever that profession, as that of the artist, politician, savant, or simply man of business, or man of eminence, requires very considerable nervous expenditure. There is nothing more naïve, considered from the higher point of view, than the dread of obscurity, the dread of being "a nobody." The real qualities of a race are not lost because they are not

immediately exposed to view; on the contrary, they accumulate, and genius only proceeds from the boxes in which the poor have day by day hoarded up their talents instead of squandering them in follies. It is not without reason that the Chinese decorate and ennoble the fathers instead of the sons; celebrated children are prodigal, and the capital they expend is not theirs. Nature acquires her greatest riches when she is asleep. Now, in our impatience, we cannot sleep; we want to see the generations always awake, always at work. Once more, the only way of permitting this restless effort and constant expenditure to continue is to vary it incessantly; we must resign ourselves to our sons being other than we are, or to their ceasing to exist.

The end of every social and pedagogic reform ought not to be the decrease in human society of effort—that essential condition of all progress—but on the contrary the increase of productive effort by a better organisation and distribution of forces, as we often increase the amount of work done in a day by reducing the hours of labour from twelve to ten. For that purpose the first thing to be done is to place humanity, and especially children, under better hygienic conditions—the sanitation of houses and workshops, decrease of mental and physical labour, etc. Secondly, we must substitute among the masses for a certain space of time well-directed intellectual work for material work. Among the wealthy classes a minimum of material work must counterbalance the disequilibration entailed by exclusively intellectual work or by idleness. Unfortunately, nowadays increase of social foresight is produced mainly in economics, and economic foresight is often opposed

to really social and hygienic foresight. Saving a capital of money, and even of honours, is often the exact contrary of saving health and strength for the race. Take the case of a poor young man who hopes to get married as soon as his social position is sufficiently improved, and who overburdens himself with work (examinations, preparation for State schools, etc.). He is already an old man when he marries, with an overworked nervous system, and with a constitution best adapted for the *degeneration* of his race. Further, in virtue of the economic foresight which has guided him hitherto, he will restrict the number of his children—another chance of degeneration, the first-born being as a rule far from being the best endowed. The conclusion is that there is often an antinomy between economic foresight, which has two terms—extreme parsimony with regard to money, and extreme expenditure with regard to strength—and hygienic or moral foresight, which consists in sparing one's health, and only expending strength in proportion as the expenditure, rapidly recuperated, constitutes exercise and not exhaustion.

As we have seen, the too rapid growth of economy, which represents a certain amount of physical work thrown out of employment, is always dangerous in a race, when it is not accompanied by a proportional increase of intellectual and moral capacity, which permits the physical strength set free by economy to be used in some other way. All economy of material wealth may be an occasion of moral prodigality. True progress consists in the methodic transformation of physical labour into well-regulated intellectual labour, and not

in the cessation or decrease of work. If rotation were properly understood and applied, the social ideal would consist in an absolute and increasing production, whereas the purely economical ideal is only the decrease of the necessity of production, which generally leads to an actual decrease in production. We have to substitute for the external necessities (hunger and misery), which have hitherto been man's taskmasters and have often enforced excessive toil, a series of internal necessities, of intellectual and moral needs, corresponding to new capacities, which will urge him to regular work in proportion to his strength. This would be the transformation of physical effort and muscular tension into a *nervous tension* and *attention*, but into attention regulated, varied, and applied to different objects, with intervals for rest.

CHAPTER IX.

THE AIM OF EVOLUTION AND EDUCATION. IS IT CONSCIOUSNESS, OR THE AUTOMATISM OF HEREDITY?

SOME partisans of evolution, pushing to an extreme the thesis of Maudsley and Ribot, and even Spencer himself, come to the conclusion that the most elevated stage of perfection for man, and consequently the most perfect type of the moral ideal, and the aim of education, would be a complete state of automatism, in which intellectual acts and the most complicated sentiments would be alike reduced to purely reflex actions. "Every conscious act," they say, "every thought, every sentiment, presupposes an imperfection, a delay, a check, a want of organisation; if, therefore, to form the type of ideal man we take the quality which all others presuppose, and which does not itself presuppose any other—viz., organisation—and if we think of it as raised to the highest possible degree, our ideal of man is an unconscious automaton marvellously complicated and unified."[1] This theory of the ideal human being is, in my opinion, based upon an inaccurate conception of the world and mind.

Unconscious automatism could only be the perfect organisation of *past* experiences or perceptions; but

[1] Paulhan, "Le Devoir et la Science Morale," *Revue Philosophique*, December 1886.

these past perceptions cannot, in the individual and the race, entirely coincide with *future* perceptions, unless we suppose that man is placed eternally in the same environment—that is to say, that the world is arrested in its evolution. Now, such a cessation of progress is neither admissible from the scientific, nor desirable from the practical, point of view; it offers none of the characteristics of the ideal. Hence the ideal for man is not the adaptation to his environment *once for all*, an adaptation which would in fact issue in automatism and unconsciousness; it is an increasing facility of readaptation to the changes of the environment, a flexibility, an educability which is nothing but an intellect and a consciousness ever becoming more perfect. If, in fact, adaptation to things is a work of unconscious habit, incessant readaptation is the characteristic of the conscious intellect and of the will, the work of education. Consciousness is not purely and simply an arrested reflex action, as contemporary psychologists so often define it; it is a corrected reflex action, brought into correspondence with the changes of the environment, wound up anew rather than stopped. And the ideal is not to suppress this readaptation to the environment, but to make it continuous by the conscious prevision of those changes that may bring about the double evolution of the man and the world. This conscious prevision will suppress shocks, surprise, and anguish, increasing the part played, not by automatism, but by the intellect; the intellect alone can prepare us for the future, and can adapt us to the partial unknown of time and space. This unknown, although not yet present with us, is prefigured by ideas and sentiments; hence a moral and intellectual environment,—

a conscious environment from which we cannot escape, and which will always protect us from automatism.

It is very superficial to suppose that science and scientific education tend to automatism because they use the memory for the storing up and organising of facts, and that on the other hand the memory, being automatic, reaches its perfection in unconscious recollection, in habit; in other words, in reflex action. Science would thus have as its ideal routine — that is, its own antithesis. We forget that science is not constituted merely by the knowledge acquired, but by the manner in which this knowledge is constantly employed to gain further knowledge and to turn it into new channels of action. Progress constantly increases the number of machines and instruments at man's disposal, and among the instruments, knowledge organised into a habit—*i.e.*, instruction—takes the first rank. But the possession of machines ever more and more complicated by no means tends to turn man into a machine; on the contrary, the more the number of our internal and external instruments is increased, the more the mass of our unconscious perceptions and stored-up knowledge increases, the greater is our power of voluntary attention: power and consciousness are developed simultaneously. To think, for example, that the *rôle* of the unconscious is larger in the savant than in the peasant would be naïve; unconsciousness in the savant is no doubt much more complicated, presenting, like the brain, countless convolutions and windings, but the consciousness is at the same time developed in an even greater proportion. In a word, it is strange to be called upon to prove that ignorance alone,

and not science, is routine. As the sphere of knowledge widens, and the points of contact with the unknown increase, it follows that every adaptation of the intellect to the known only makes a readaptation to more extended knowledge easier and more necessary. To know is to be led as a whole to learn more and to be able to do more. That is why curiosity increases with knowledge and instruction: an inferior man is not curious in the real sense of the word—curious as to new ideas and higher generalisations. What will save science is what has constructed it, and what will again construct it—insatiable curiosity. And although science tends to make more and more use of habit and reflex action, to widen its substructure in the unconscious, as we extend the foundations of a lofty building, we may assert that science is the extending and luminous consciousness of the human race, that the practical knowledge and power of man will always be measured by his power of inner reflexion.

M. Ribot maintains that our pedagogy is based entirely upon a colossal blunder, because it looks for the improvement of a country by a better organisation of education. Action, he adds, does not depend upon the intellect, but upon the will and sentiment, and instruction has no hold on one or the other. M. Fouillée, on the contrary, attributes force to ideas, and thinks that every idea corresponding to a sentiment tends to some action. In the same way, according to M. Espinas, when the will and emotions in a people are affected by incurable diseases—diseases connected with organic waste or with some deeply rooted change of temperament—in that case it is no doubt chimerical to hope that health will come from

what is taught at school; but, as long as a vestige of hope remains (and no one has a right to despair of his country), if an effective influence can be exercised on this people, if its will can become strengthened, and the play of the emotions once more become normal, it is by ideas—true ideas, *i.e.*, science—that cure and improvement can be attained.[1] Let us therefore examine more closely the *rôle* of the consciousness in psychical evolution in general, and moral evolution in particular.

The term consciousness is used to designate a

[1] "What is sentiment," says M. Espinas, "if it be not the excitement resulting from a more or less obscure view of the dangers or advantages which may accrue to us? What is the will, however instinctive we suppose it to be, if it is not the impulse of that part of our ideas to which heredity or habit has attached the strongest sentiment? Now, does it not, in a certain measure, depend upon the educator to give to certain ideas a preponderating force, by showing their connection with the most pressing interests, and then by habit to bend the will to submit to the influence of those ideas? And may not the character—nay, the temperament—be thus modified in the long run, as far as the vitality transmitted to the race permits? If this be untrue, point out the way to act directly on the will and its emotional source! It may perhaps be said that new sentiments may be aroused by the communicated emotion springing from inspired speech, by example, by authoritative accent or gesture, and by the fine arts; but here again it must be admitted that poetry and eloquence count among the fine arts, that the accent is that of a voice using words, that example is interpreted by language, that the emotion of the educator moves the heart of the disciple, having first reached it by way of his thoughts. If this were not so, we should be confronted by a mysterious pedagogy, which would operate in silence like grace, and would abandon teaching and take to praying. The choice must be made; we must either try to modify the will by the idea, or give up trying to reform the will. It follows that to bring up youth, to institute methods of education, psychological and social science—*i.e.*, the exact knowledge of the laws of the mind and the conditions of existence under which it moves—cannot do all things, but it can do all that is possible. Science will turn out to be powerless only where there will be no room for its application. It is not the fault of the crow-bar if the arm that wields it finds it too heavy."

mental state which, in its physiological conditions, is certainly more complex than the state of unconsciousness; this state, when once produced, forms a new unit of force (even from the physiological point of view) among the component forces acting within us. That is the basis of the theory of "idea-forces," to which the following pages are a contribution.

A conscious phenomenon does not act absolutely in the same way in the chain of physiological phenomena as a purely unconscious phenomenon, and it introduces into that chain a new force.

In fact:—1st, the consciousness is primarily a more complete organisation, by which one phenomenon becomes attached in time to another as antecedent or consequent. The idea of time clearly presupposes the existence of consciousness. Now, there is no complete organisation, even in an intellect conceived as purely automatic, apart from time, which introduces sequence into phenomena, at any rate apparently of the nature of empirical causality.[1] The fact that we have consciousness allows us "to recognise phenomena as having occupied a clearly-defined position among other states of consciousness."[2] In fact, it furnishes us with the essential idea, that what has been done once may be done again, that we are capable of self-imitation, self-differentiation, or self-modification.

2nd. The consciousness, constituting a better organisation, and in certain respects a concentration of psychical phenomena, also constitutes a centre of attraction for the psychical forces. As with sidereal

[1] *Vide* my study on *La Genèse de l'Idée de Temps*.
[2] *Vide* M. Ribot, *Maladies de la Mémoire*.

matter, which attracts in proportion to its condensation into a nucleus, so with the mind. Consciousness is action concentrated, solidified, and, in a measure, crystallised. Further, this action is self-transparent: it is a self-conscious formula; now every act clearly formulated *ipso facto* acquires new power of attraction and selective affinity. Every temptation which is vague and indeterminate to the consciousness is easily overcome; when it is determinate and formulated, and assumes the outlines of a conscious act, it may become irresistible.[1]

3rd. The consciousness may act spontaneously as a general exciting influence on the organism. M. Féré has attempted to prove, by a series of psycho-physiological experiments, that all sensation not painful is a stimulant of energy. If we thus admit that sensation has a dynamogenic power, it is not illogical to admit that consciousness—which underlies all sensations, and which is in its origin only sensation—shares in this dynamogenic power. "We like sensations," said Aristotle; if we like them, it is because they seem to act like a tonic; but we also like to have consciousness, and it is probable that from it we draw an immediate advantage in general energy.

4th. The consciousness in a great measure simplifies what I shall call the inner circulation and course of ideas, and their relations one with another, which make it possible to compare and classify them.

As the idea constitutes the life of the intellect, it also constitutes the life of the will, which is, properly speaking, moral life. The force of an idea, in fact, is in direct ratio to the number of states of consciousness

[1] Cf. the previous chapter on "Suggestion."

the idea is able to dominate and regulate. When a man acts conformably to an idea, his sense of that intellectual and regulative force will be inversely proportional to the purely blind and physical impulse to action prompting him at the same moment. Now, action according to the ideas is *ipso facto* will—*i.e.*, the commencement of moral life. Thanks to the idea, all action is immediately formulated within the mental presence-chamber of the moral agent, and classed by him; it spontaneously takes its place in the series of states of consciousness characterised by this or that general tone of emotion or sensation, while the individual and objective features of the action are considered of secondary importance. This classification becomes by force of habit almost instantaneous: it takes place in the somnambulistic sleep as well as in the waking state. To think of an action is to have already summarily *judged* it, to feel oneself attracted or repelled by the whole group of tendencies with which it is connected. The common characteristic of very primitive races and children of an early age is the want of constancy and permanency in the moral impulses; or, in other and better words, they do not, as a rule, feel a constant impulse to action; and almost all those impulses which do issue in action assume the intermittent character of physical wants, such as hunger, thirst, etc.; even love itself, as an exclusive and insatiable passion, does not exist in them. All their emotions are transient. It follows that they can only exceptionally feel the influence of an idea-force, the dictate of an "obligation." What we call the moral sentiments are not absolutely wanting, but they only act at the moment; in fact, primitive man

has moral *caprices*, but no organised morality: it is much easier for him to be heroic than straightforward and equitable. And these caprices, whether satisfied or not satisfied, tend to extinction, without leaving any deep trace in him, because whatever prevents him from exerting self-restraint under the pressure of an emotional impulse, also prevents him from detaining this impulse when present to his mind; his thoughts wander, because he is powerless and incapable of effort: his consciousness is not complex enough for these emotional influences to counteract each other for long, so as to avert immediate expenditure and exhaustion of energy in spontaneous movements. He does not know what a line of conduct is, and he will only learn it by a very slow evolution.

The progress which gradually substitutes the reign of tenacious and harmonised impulses for this reign of caprice, of transient and discordant impulses, tends to form the *character;* and it is this progress which also tends to the formation of morality. To have character is to conform one's conduct to certain empirical or theoretical rules, to certain idea-forces, which may be good or bad, but which always introduce harmony, beauty, and moral worth.

To have character is to experience an impulse so strong and regular in its power as to subordinate all others to itself. In the individual such an impulse may be more or less anti-social; we may have character, and so may present a certain inward beauty and, *ipso facto*, present an elementary morality with a regulated conduct, and nevertheless be but one of the "unclassed" in the race—perhaps a brigand. On the other hand, when we have to deal with a race, especially with the human race in general,

the character and the triumph of the social instincts ought in the main to coincide, for selection excludes every individual realising an anti-social type of conduct. The poem of life excludes a Manfred and a Lara; it may at the present day be safely asserted that men who have the most will have the best will; that the best co-ordinated lives are the most moral; that the most admirable characters from the æsthetic point of view are also, as a rule, the most admirable from the moral point of view; that, in fact, the reign of morality is more or less partially established within us as soon as we are able to establish any authority or subordination within ourselves.

Consciousness, therefore, is not only a complication, but, from certain points of view, a simplification; that is why it came into being, and that is why it cannot disappear before the progress of mechanical organisation. We may form for ourselves an impressive picture of the struggle of unconscious tendencies and impulses, by representing it as a hand-to-hand conflict between men fighting blindly in the dark: the day breaks, discloses the respective conditions of the armies, and at one stroke decides the battle. Even though the result were the same, it is greatly furthered, and a considerable expenditure of energy and life is thus avoided: and this is precisely what happens when consciousness brings to light the obscure struggle of the propensities. It shows us the respective powers of each—a power in most cases proportional to the generality of ideas represented by each propensity—and it spares us from being inwardly torn and harassed by useless struggles. It should also be noticed that unconsciousness, like "darkness," is always a relative term; as

there is light in every shade, so it is probable that there are everywhere lower phases of consciousness. If the idea does not, properly speaking, create force, it economises it to a great extent. But it is perhaps not enough to say merely that it accelerates the result ; the idea may modify the relation of the forces. The influence of an idea, or, to use a physiological expression, of a certain vibration of the brain, is habitually proportional to the number of states of the nervous system by which it is escorted. Now, for an unconscious being to experience this force belonging to an idea, it has actually to pass through the whole series of successive modifications of the nervous system in which the vibration in question is manifested. On the other hand, when the consciousness intervenes, it is enough to imagine these states to immediately grasp the real force of the idea. Now we see what simplification the consciousness implies. It is the future become present ; it is the period in which the collective results of evolution are concentrated in a moment. Thought is evolution condensed in some way or other. We may consider an idea as the abstraction of a sentiment, and sentiment as an abstraction of sensation, and finally sensation as an abstraction and a scheme of a very general objective state, of a kind of vital *nisus* more or less indeterminate in itself.[1] Thus, by a series of successive abstractions, each of which is at the same time a determination (for the abstract has its outlines always more simply defined than the concrete, and the difference between them is exactly the difference between a sketch and a painting), we rise from

[1] Sensation is here used as equivalent to painful or pleasurable feeling produced by sensory stimulation. (Tr.)

more or less shapeless life to the most definite thought, and all progress toward the abstract marks an economy of force, a simplification of the internal mechanism, in that "shifting and living number" which constitutes life, and which Plato called ψυχή. Thought is the algebra of the world; and this algebra has made possible the most complex mechanism, has placed the most colossal power in the hands of man. The progress of evolution is measured by the increasing share taken in it by the abstract as compared with the concrete. The more the concrete is dissolved, effaced, subtilised, the more it gives place to regular outlines; thought, as such, is but a sketch; but by refining this sketch we approximate to the ideal masterpiece that nature strives to attain. Every line clearly fixed in the consciousness becomes a possible direction in action, and every possibility is a force. So abstract thought,—the supreme object of intellectual instruction,—which appears to be the most estranged from the domain of vital forces, may nevertheless be a very great force under certain relations, and may even become the supreme force, provided that it marks the straightest line and that of least resistance. The paths traced out in the world by thought are like the broad thoroughfares we see from a height like bands across a large town: at first they seem empty, but presently the eye distinguishes swarming life: they are the arteries of the town, through which the most intense circulation goes on.

If there be in the very consciousness of a phenomenon a certain additional force, increasing the anterior force peculiar to that phenomenon, it follows that "idea-forces" really do exist. We must

understand by idea-force that surplus force added to an idea by the mere fact of its reflexion in consciousness, having for its physical correlative a surplus motor force. The surplus force is the result of a *comparison of the idea* with others present in consciousness. This confronting of ideas, this inner balancing, is enough to make some rise and others sink. Those which tend to gain the mastery are always :—1st. The most *general* ideas, and therefore those most often associated with the greatest number of other ideas, instead of being repelled by them ; the idea-force is therefore the force of which the power is proportional to its degree of rationality and consciousness, and which does not borrow that power from the domain of unconscious habits, but from its relation to other conscious ideas—from its very generality. 2nd. The most *effective* ideas, which awaken the most active sentiments without provoking by opposition any depressive state. From these two laws follows a simplification of inward difficulties to the advantage of the most general or the most emotional ideas.

From the preceding considerations ensues the confirmation not of the impotence of ideas, but of the power of ideas and education. Thus, far from every perfect organisation having to issue in the unconscious, it is impossible to picture to oneself a perfect and yet unconscious organisation. The state of consciousness acts as a link interposed in partly "unconscious" reasonings, which may operate during an eclipse of the inner illumination.

In higher species the evolution and education of the individual consciousness is much more vast and complex, and is also much longer and more continuous; it extends to the farthest limits of life. One of the traits

characterising man as compared with the animal, and the civilised man as compared with the savage, is that his intellect is longer capable of new acquisitions, is not checked in its growth, and does not close in upon the knowledge acquired, as certain plants close in upon the insects they stifle. In the same way, one of the essential traits characterising the man of genius, according to Galton and Sully, is that his intellect, more perfect than the average, has a longer evolution. Genius produces both sooner and later ; the brain of a great man is fatigued less rapidly than his limbs ; his fecundity is not suspended—it lasts up to the grave : being, as it were, less prone to death, he is less conscious of its approach. The evolution of the human consciousness, therefore, tends in the higher types of humanity to fill the whole of existence. Thus nature ever tends to diminish the long night of unconscious childhood and imbecile old age which is to be found in the lower stages of humanity. Further, when we see the limits of fecundity and education recede for the human consciousness, it may not be anti-scientific to hope that perhaps one day, after many ages have passed away, the limits of its existence may also recede ; that the brain will have more vitality than the rest of the body. Not only by its most universal and impersonal ideas, but by the very curve of its evolution, by the ever-increasing power and duration of its inward fecundity, the human consciousness will tend more and more to bring in its train a wider immortality.

APPENDIX.

ARTIFICIAL MODIFICATIONS OF CHARACTER IN INDUCED SOMNAMBULISM.

Letter to the Editor of the "Revue Philosophique."

February 1883.

I send you a few reflexions—suggested by an important article of M. Richet's—on artificial modifications of the moral character and moral tendencies in induced somnambulism.

I.

M. Richet treats of two questions—amnesia of the personality, and unconscious memory.

To completely demonstrate "amnesia of the personality" in cases of induced somnambulism, we must effectually prove amnesia of the *moral character*, the essential mark of the personality; this transformation of character is only partially produced in the well-known case quoted by Dr. Azam, but I can find it nowhere in the researches of M. Richet—that is to say, presented in a sufficiently formal manner. For instance, I should have been better satisfied if, when transforming Mme. A—— into a general, he had placed before her some moral alternative, and had given her the choice of two honourable posts, one of which was a post of almost certain death; we then should have seen if feminine timidity would have prevailed. It seems to me extremely probable that many somnambulists, playing the same *rôle* again and again, would act differently under the same circumstances, according to sex, education, habits, etc. Probably the married woman of whom M. Richet speaks would not have acquitted herself in her *rôle* of sailor with the same crudity of expression as the second patient: she

would probably have displayed hesitation in certain scenes of rough action. In other words, the old personality ought not to disappear totally and give place to a personality dropped from the clouds; the newly-awakened tendencies are, doubtless, only a *composition* of forces pre-existing in the organism, with the new impulse implanted by the will of the magnetiser.

Perhaps M. Richet may have gone too far in drawing a fine distinction between the "drama actually lived" by somnambulists and the drama composed by dramatic authors, or played by actors. Poets or musicians of a very impressionable and nervous temperament have really lived the *rôles* they composed. Weber believed he saw the devil when he summoned him in his music; Shelley had hallucinations; Flaubert (according to M. Taine) had the taste of arsenic in his mouth when he was describing the poisoning of M. Bovary; Malibran at times thought she was Desdemona. In the same way, in our dreams, we are each of us transformed into another human being, or even a horse, or a bird, etc. Even in waking life there are always within us, as in Maître Jacques, several personalities, whom the mere changing of garments may successively arouse. The very *timbre* of the voice, which is so closely connected with the personality, is changed in a most remarkable way as we pass from one *rôle* to another, and a person has not the same tone of voice in a drawing-room as in the bosom of his family. If the proverb, "You never know a man until you have eaten a bushel of salt with him," is eternally true; it is because, to know a man thoroughly, we must have seen him play successively every *rôle* in the drama of life. It is none the less certain that in the case of persons differing in the widest degree, each preserves intact the sum total of hereditary and acquired tendencies which are his alone, and which constitute his individuality—his character. Whether these instincts are latent and completely unconscious (as in dreams and somnambulism), or remain vaguely conscious (as sometimes happens in the waking state), is of secondary importance, provided they exist and operate. Maître Jacques is still Maître Jacques, whether he be coachman or cook; he will even entirely forget the former part while playing the latter; but he will no more, on that account, lose all the traits of his moral character, or his inward features, than he will absolutely change the features of his face. We are never conscious of all our being, and it is easy to

understand that in certain cases of delirium this always very limited consciousness is still more narrowly limited so as to include only the provisional personality assigned to the patient at the time. But the totality of the person and of the character still subsist in penumbra, and it remains a constant cause of internal phenomena. When the fog covers the sea, and a small ray of light, piercing a cloud, falls on the moving waters, the circumscribed spot illuminated by it seems to move spontaneously, and to be something distinct, separate, and independent; but in reality this spot borrows the quivering of its surface from the undulating movement of the whole ocean. Thus the habitual tendencies of our moral character and personality ought to be re-discovered, even in the most manifest disturbances which seem to suppress them. M. Richet wishes to establish a distinction between the personality and the ego, so as to reduce the former exclusively to a phenomenon of the memory; but does not he himself admit of unconscious memory in the waking state? This memory ought also to exist in the somnambulistic state, and to closely link together the different phases of transformation; moreover, this memory is largely conscious; is there not in every instance quoted a memory of words, and therefore of ideas and impressions, and will not those impressions always bear the specific mark of the individuality? It is probable that we may even find in every somnambulist, as in every writer, a kind of personal *style*, and "the style is the man." The sum total of mechanical phenomena, which are the basis of the individual from the scientific point of view, cannot suddenly vanish; new combinations are produced, but there is nothing which could resemble creation.

II.

What are certainly more remarkable in the cases quoted by M. Richet are the instances of unconscious memory which recall the marvellous and terrible legends about Cagliostro. In these examples M. Richet seems to have been able to create in every detail, by means of an external command, an inner tendency, a propensity persisting in shadow after the return to the waking state, and in some measure imposing itself on the will of the patient. In these curious cases, the dream of the

somnambulist seems still to dominate him and direct his life after he is awake. The inverse had been noticed long ago. It had been observed that we each can, more or less, regulate our sleep, and in a certain measure control our dreams, and fix beforehand the hour of awaking. In my own case, I have often noticed this influence of the will over dreams—an influence quite unconscious during the dream itself, and nevertheless easier to ascertain when awake ; I have very often half awakened myself in the midst of melancholy dreams ; I have willed to change their direction, and resuming the thread of the same dream I have known it become cheerful.

I think that here is a fertile source of experiment which is very curious and very important in the study of instincts.[1] In fact the commands of the magnetiser seem to arouse in the midst of all the instincts of the being, a new tendency, a nascent artificial instinct.

The most curious case related by M. Richet is in a previous article (October 1880). It is about a woman who was naturally a very small eater. One day, during her sleep, M. Richet told her she must make heartier meals. When she awoke, she had entirely forgotten the injunction ; however, a few days after, the hospital nurse took M. Richet aside and told him she could not understand the change that had been effected in the patient. "Now," she said, "she is always asking for more food than I give her." If this case has been accurately observed, this is not only the carrying out of a particular command, but an unconscious impulse closely akin to natural instinct. In fact every instinct, natural or moral, is derived, as Cuvier points out, from a kind of somnambulism, because it gives an order of which we do not know the reason. We hear the "voice of conscience" without knowing from whence it comes. To vary the experiment, the patient should have been ordered not only to eat, but, for example, to get up early in the morning, and to work hard. We might eventually modify in this way the moral character of individuals, and induced somnambulism might assume an important place, as a means of action, in the moral hygiene of humanity.[2] All these tempting hypotheses remain pending till the observations of M. Richet have been confirmed with sufficient scientific accuracy.

[1] These experiments have since been made.

[2] *Education and Heredity*, chap. i.

If these experiments are confirmed, we might go further still, and try if it be not possible to annihilate, by a series of repeated commands, this or that natural instinct. It is said that a somnambulist may be made to lose her memory—for example, her memory for names; we may even, according to M. Richet, destroy the whole memory (*Revue Philosophique*, Nov. 1880); he adds—"the experiment should be attempted with every possible precaution; I have seen such terror and disorder in the intellect supervene in a case of this kind, lasting for about a quarter of an hour, that I would not willingly repeat this dangerous experiment." If, with most psychologists, we identify memory with habit and instinct, we should imagine it impossible to provisionally annihilate in the somnambulist this or that instinct, even those of the most fundamental character—such as the maternal instinct, etc. Next, we ought to ascertain if this suppression of the instinct leaves traces when the somnambulist is awakened. We might in all cases try the experiment on hereditary habits or manias; we might try if a series of orders or admonitions repeatedly given during sleep could diminish, for example, delusions of grandeur or of persecution. In other words, we should try to counteract a natural by an artificial mania. In this way somnambulism would be a richer field than madness for moral and psychological observations. Both are derangements of the mental mechanism; but in induced somnambulism the derangement may be measured and regulated by the magnetiser.

We might conceive of an operation on the intellect and moral sense analogous to the operation for strabismus: the squint is cured, not by strengthening the weaker muscles, but by relaxing those with sometimes more than their normal powers. However that may be, the facts given by M. Richet, if the result of accurate observation, certainly indicate a new method of research, and perhaps a new means of action on the human will, at least in its morbid state.

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